

FY2013

RED RIVER ARMY DEPOT
Army Defense Environmental Restoration Program
Installation Action Plan

Printed 09 September 2013

Table of Contents

Statement Of Purpose.....	1
Acronyms.....	2
Installation Information.....	6
5-Year / Periodic Review Summary.....	8
Land Use Control (LUC) Summary.....	9
Cleanup Program Summary.....	14
Installation Restoration Program.....	17
IRP Summary.....	18
IRP Contamination Assessment.....	20
IRP Previous Studies.....	21
Installation Restoration Program Site Descriptions.....	28
PBC Red River PBC.....	29
RRAD-35 SOIL UNDERLYING BLDG 345, NORTH WASHRACK.....	30
RRAD-36 BLDG 371 (BATTERY SHOP) SOILS.....	31
RRAD-37 SOILS UNDERLYING BLDG 373(DYNAMOMET.....	32
RRAD-43 SOILS NEAR TRANSFER PUMPS, BLDG 473.....	34
RRAD-55 CHROMATE EQUALIZATION LAGOON.....	36
RRAD-56 BUILDING 315 TRANSFER STATION.....	37
RRAD-60 BLDG 433, FORMER RUBBER PRODUCTS BL.....	38
RRAD-62 POPPING FURNACE BLDG# 722.....	40
RRAD-63 POPPING FURNACE BLDG #1027.....	41
RRAD-71 BLDG 350, FORMER NI-CAD BATTERY SHO.....	43
RRAD-73 BLDG 414, GEN STORAGE BLDG, DIRT FLOOR.....	44
RRAD-99 DRMO Scrap Yard.....	45
Installation Restoration Program Site Closeout (No Further Action) Sites Summary.....	46
Installation Restoration Program Schedule.....	49
Installation Restoration Program Milestones.....	49
IRP Schedule Chart.....	52
Military Munitions Response Program.....	53
MMRP Summary.....	54
MMRP Contamination Assessment.....	55

Table of Contents

MMRP Previous Studies.....	56
Military Munitions Response Program Site Descriptions.....	57
RRAD-001-R-01 VULCAN RANGE.....	58
RRAD-006-R-01 D-AREA Y-SITE D060201.....	60
RRAD-010-R-01 TRACER TEST RANGE.....	61
RRAD-011-R-01 DEMOLITION AREA CREEKS.....	63
RRAD-011-R-02 DEMO. AREA WASHRACK/STORAGE/TRAILS.....	64
RRAD-011-R-03 UNPERMITTED DEMOLITION AREAS.....	65
Military Munitions Response Program Site Closeout (No Further Action) Sites Summary.....	67
Military Munitions Response Program Schedule.....	68
Military Munitions Response Program Milestones.....	68
MMRP Schedule Chart.....	69
Compliance Restoration.....	70
CR Summary.....	71
CR Contamination Assessment.....	72
CR Previous Studies.....	73
Compliance Restoration Site Descriptions.....	74
CC-006-RR Fuel Station, Building 393.....	75
Compliance Restoration Site Closeout (No Further Action) Sites Summary.....	76
Compliance Restoration Schedule.....	77
Compliance Restoration Milestones.....	77
CR Schedule Chart.....	78

Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multiyear cleanup program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern (AOC), and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions (RAs).

In an effort to coordinate planning information between the restoration manager, Army Materiel Command (AMC), the US Army Environmental Command (USAEC), Red River Army Depot (RRAD), the executing agencies, the regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and tentative budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

Acronyms

A/I	Active/Inactive
AEDB-CC	Army Environmental Database - Compliance-related Cleanup
AEDB-R	Army Environmental Database - Restoration
AMC	Army Materiel Command
AOC	Area of Concern
APAR	Affected Property Assessment Report
AR	Arkansas
AST	Aboveground Storage Tanks
BCP	BRAC Cleanup Plan
Bldg	Building
BRAC	Base Closure and Realignment Commission
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
CC	Compliance-related Cleanup (program)
CEL	Chromate Equalization Lagoon
CERCLA	Comprehensive Environmental Response Compensation Liability Act of 1980 (amended in 1984 and later)
CIP	Community Involvement Plan
CMI	Corrective Measures Implementation
CMI(C)	Corrective Measures Implementation (Construction)
CMI(O)	Corrective Measures Implementation (Operations)
CMS	Corrective Measures Study
COC	Contaminants of Concern
CONUS	Continental United States
COPC	Contaminants of Potential Concern
CP	Compliance Plan
CR	Compliance Restoration (program)
CS	Confirmatory Sampling
CTC	Cost-to-Complete
CTT	Closed, Transferred, or Transferring
CY	Calendar Year
cy	cubic yards
DCE	Dichloroethylene
DD	Decision Document
DERP	Defense Environmental Restoration Program
DES	Design Engineering Study
DLA	Defense Logistics Agency
DMM	Discarded Military Munitions
DNAPL	Dense Non-Aqueous Phase Liquids
DRMO	Defense Reutilization and Marketing Office
DRMS	Defense Reutilization and Marketing Service
DSMOA	Defense State Memorandum of Agreement
EM CX	Environmental and Munitions Center of Expertise
ER	Emergency Removal
ER,A	Environmental Restoration, Army (formerly DERA)
FERLFE&C	Final Ecological Reference Location Field Evaluation & Comparison
FOST	Finding of Suitability to Transfer

Acronyms

FRA	Final Remedial Action
FS	Feasibility Study
FUDS	Formerly Used Defense Site
FY	Fiscal Year
GPRA	Government Performance and Results Act
GPS	Global Positioning System
GWPS	Groundwater Protection Standard
HE	High Explosives
HRR	Historical Records Review
HSWA	Hazardous and Solid Waste Amendments
IAP	Installation Action Plan
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ISC	Initial Site Characterization
IWTP	Industrial Wastewater Treatment Plant
kg	kilogram
lb	pound
LNAPL	Light Non-Aqueous Phase Liquids
LPST	Leaking Petroleum Storage Tanks
LSAAP	Lone Star Army Ammunition Plant
LTM	Long-Term Management
LUC	Land Use Control
MC	Munitions Constituents
MEC	Munitions and Explosives of Concern
mg	milligram
mg/kg	milligram per kilogram
mm	millimeter
MMRP	Military Munitions Response Program
MNA	Monitored Natural Attenuation
MRS	Munitions Response Site
MRSP	Munitions Response Site Prioritization Protocol
MSSC	Maneuver System Sustainment Center
MSW	Municipal Solid Waste
MW	Monitoring Wells
NAPL	Non-Aqueous Phase Liquid
NFA	No Further Action
Ni-Cad	Nickel-Cadmium
NPL	National Priorities List
OB	Open Burning
OD	Open Detonation
OE	Ordnance/Explosive
ORAP	Operational Range Assessment Program
OTC	Ordnance Training Center
OUTC	Ordnance Unit Training Center
PA	Preliminary Assessment

Acronyms

PAH	Polycyclic Aromatic Hydrocarbons
Pb	Lead
PBA	Performance-Based Acquisition
PBC	Performance-Based Contract
PCB	Polychlorinated biphenyl
PCL	Protective Concentration Level
PCLE	Protective Concentration Level Exceedance
PLM	Professional Labor Management
PMZ	Plume Management Zone
POL	Petroleum, Oil, and Lubricants
PP	Proposed Plan
ppb	parts per billion
PRB	Permeable Reactive Barrier
PST	Petroleum Storage Tank
QC	Quality Control
RA	Remedial Action
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operation)
RAB	Restoration Advisory Board
RACER	Remedial Action Cost Engineering and Requirements
RACR	Response Action Completion Report
RAD	Radioactive Waste or a unit of radiation measure
RAP	Response Action Plan
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RFA	Resource Conservation and Recovery Act Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy-in-Place
ROD	Record Of Decision
RRAD	Red River Army Depot
RRMC	Red River Munitions Center
RRSE	Relative Risk Site Evaluation
S&A	Supervision and Administration
S&R	Supervision and Review
SI	Site Inspection
SLERA	Screening Level Ecological Risk Assessment
SVOC	Semi-Volatile Organic Compound
TAC	Texas Administrative Code
TAPP	Technical Assistance for Public Participation
TBD	To Be Determined
TCA	1, 1, 1 Trichloroethane
TCE	Trichloroethylene or Trichloroethene
TCEQ	Texas Commission on Environmental Quality

Acronyms

TCLP	Toxicity Characteristic Leaching Procedure
TD	Transferred
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
TRPH	Total Recoverable Petroleum Hydrocarbons
TRRP	Texas Risk Reduction Program
TX	Texas
US	United States
USACE	US Army Corps of Engineers
USACHPPM	US Army Center for Health Promotion and Preventive Medicine (now Public Health Command)
USAEC	US Army Environmental Command
USAEHA	US Army Environmental Hygiene Agency
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
UXO	Unexploded Ordinance
VOC	Volatile Organic Compound
WIA	Western Industrial Area
WWT	Wastewater Treatment

Installation Information

Installation Locale

Installation Size (Acreage): 15840.01

City: Texarkana

County: Bowie

State: Texas

Other Locale Information

The Red River Army Depot (RRAD) is located on 15,840.015 acres of land in Bowie County, Texas (TX). The installation is approximately 18 miles west of Texarkana, TX/Arkansas (AR) (population 29,919/36,411 per 2010 census). The installation is adjacent to Hooks, TX (population 2,769) to the north, and New Boston, TX (population 4,550) to the west. The Bowie County population is 92,565 per 2010 US Census data, of which 67% is urban, and 33% is rural. The former Lone Star Army Ammunition Plant (LSAAP) is adjacent to RRAD to the east, which after Base Realignment and Closure Commission (BRAC) 2005 closure is now known as TexAmericas East.

In July 1995, the BRAC recommended realigning RRAD by moving all maintenance missions associated with the M113 tactical vehicle series to other depot maintenance activities. The installation retains its Bradley Fighting Vehicle series and tactical vehicle maintenance missions, road wheel and track remanufacturing missions, intern training center, civilian training, Defense Logistics Agency (DLA), and rubber products renovation/ production/ fluidized bed combustion facilities. In BRAC 1995, 765 acres were designated for transfer to the Red River Redevelopment Authority. In 2001, the water treatment plant, industrial waste treatment plant, sewer treatment plant and high voltage electrical distribution system were privatized through BRAC, transferring an additional 32 acres. In 2006 two findings of suitability to transfer (FOST) for a total of 38 acres, were approved for transfer.

Per BRAC 2005, 3,839 additional acres were transferred, including the Red River Munitions Center (RRMC) ammunition storage and open burning (OB) and open detonation (OD) missions, and the RRAD Patriot and Hawk missile recertification missions.

Installation Mission

The mission for Red River Army Depot is to:

Conduct ground combat, and tactical systems sustainment maintenance operations and related support services worldwide, for the US and Allied Forces and friendly nations in support of the Warfighter. Be an active and viable partner within our community and the Four States area.

Lead Organization

Army Materiel Command (AMC)

Lead Executing Agencies for Installation

US Army Corps of Engineers, Ordnance and Explosives Design Center, Huntsville

US Army Corps of Engineers (USACE), Southwestern Division, Fort Worth District

Regulator Participation

State Texas Commission on Environmental Quality (TCEQ)

Local Texas Commission on Environmental Quality, Tyler Regional Office

National Priorities List (NPL) Status

RED RIVER ARMY DEPOT is not on the NPL

Installation Information

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status

RAB established 199602

Installation Program Summaries

IRP

Primary Contaminants of Concern: Dense nonaqueous phase liquid (DNAPL), Light non-aqueous phase liquids (LNAPL), Metals, Perchlorate, Petroleum, Oil and Lubricants (POL), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

Affected Media of Concern: Groundwater, Sediment, Soil, Surface Water

MMRP

Primary Contaminants of Concern: Explosives, Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC), Perchlorate, White Phosphorous

Affected Media of Concern: Building Decontamination, Groundwater, Sediment, Soil

CR

Primary Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Affected Media of Concern: Groundwater, Soil

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY
Planned	201710	201809	2018

5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
Building 414 Deed Notice	RRAD-73
Decision Document D Area Y Site D060201	RRAD-006-R-01
Decision Document Tracer Test Range	RRAD-010-R-01
Decision Document Vulcan Range	RRAD-001-R-01
FRA for Building 722	RRAD-62
Former DRMO Scrap Yard	RRAD-99
RRAD-55 Permit Issuance	RRAD-55
deed notice bldg 1025/1027	RRAD-63

Land Use Control (LUC) Summary

LUC Title: 5 year reviews

Site(s): RRAD-006-R-01

ROD/DD Title: Decision Document D Area Y Site D060201

Location of LUC

Portions of D Area at Red River Army Depot. Warning signs prohibiting digging without permission. Warning signs for this Munitions Response Site were installed beginning in early 2013 on rows D-1 through D-9.

Land Use Restriction: Media specific restriction - Prohibit, or otherwise manage excavation, Restrict land use - No residential use

Types of Engineering Controls: Signs

Types of Institutional Controls: Notations in Master Plan, Restrictions on land use

Date in Place: 201309

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: 5 Year Reviews

Contaminants: Unexploded Ordnance(UXO)

Additional Information

N/A

LUC Title: 5 yr rvws/constr support

Site(s): RRAD-001-R-01

ROD/DD Title: Decision Document Vulcan Range

Location of LUC

former Vulcan Range area

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: Signs

Types of Institutional Controls: Construction Permit, Notations in Master Plan, Restrictions on land use

Date in Place: 201309

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: 5 Year Reviews

Contaminants: METALS, Unexploded Ordnance(UXO)

Additional Information

N/A

LUC Title: Annual inspections

Site(s): RRAD-99

Land Use Control (LUC) Summary

ROD/DD Title: Former DRMO Scrap Yard

Location of LUC

Red River Army Depot parking lot # 57B.

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: None

Types of Institutional Controls: Deed Notices, Notations in Master Plan, Restrictions on land use

Date in Place: 201110

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: USACE District

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Annual Inspections, 5 Year Reviews

Contaminants: METALS

Additional Information

N/A

LUC Title: Bldg 722 in Master Plan

Site(s): RRAD-62

ROD/DD Title: FRA for Building 722

Location of LUC

Bldg 722/723 former SAA incinerators site

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: None

Types of Institutional Controls: Deed Notices, Notations in Master Plan, Restrictions on land use

Date in Place: 200609

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: 5 Year Reviews

Contaminants: METALS

Additional Information

N/A

LUC Title: Deed Notice bldg 414

Site(s): RRAD-73

ROD/DD Title: Building 414 Deed Notice

Location of LUC

Former site of demolished storage building 414. Currently under portions of the new Maneuver Systems Sustainment Center,

Land Use Control (LUC) Summary

including new facility 412H.

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: None

Types of Institutional Controls: Deed Notices

Date in Place: 201302

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: 5 Year Reviews

Contaminants: ORGANICS

Additional Information

N/A

LUC Title: Response Plan bldg 371

Site(s): RRAD-36

ROD/DD Title: Response Action Plan Building 371

Location of LUC

Around building 371 at Red River Army Depot.

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: None

Types of Institutional Controls: Deed Notices

Date in Place: 200812

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: 5 Year Reviews

Contaminants: VOC

Additional Information

N/A

LUC Title: Western Industrial Area

Site(s): RRAD-35, RRAD-56, RRAD-71

ROD/DD Title: Response Action Plan Western Industrial

Location of LUC

Western Industrial Area of Red River Army Depot. Includes IRP sites RRAD-35, -56, -71.

Land Use Restriction: Restrict land use - No residential use

Land Use Control (LUC) Summary

Types of Engineering Controls: None

Types of Institutional Controls: Deed Notices

Date in Place: 200905

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: 5 Year Reviews

Contaminants: VOC

Additional Information

N/A

LUC Title: deed notice

Site(s): RRAD-62

ROD/DD Title: BUILDINGS 722

Location of LUC

Former site of small ammunition item incinerator facility buildings 722 and 723, which have been partially demolished and renovated. Currently location of RRAD MWR recycling facility.

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: None

Types of Institutional Controls: Restrictions on land use

Date in Place: 200608

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: 5 Year Reviews

Contaminants: METALS

Additional Information

N/A

LUC Title: deed notice

Site(s): RRAD-63

ROD/DD Title: deed notice bldg 1025/1027

Location of LUC

Former site of buildings 1025/1027, ammunition incinerators, Red River Army Depot, Bowie County, Texas. AEDB-R site RRAD-63 (site absorbed adjacent site RRAD-30).

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: None

Land Use Control (LUC) Summary

Types of Institutional Controls: Deed Notices

Date in Place: 201302

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: 5 Year Reviews

Contaminants: METALS

Additional Information

N/A

Cleanup Program Summary

Installation Historic Activity

In 1942, the Army purchased the majority of the land (19,081 acres) for RRAD from several land owners in Bowie County. The installation was initially intended to be a reserve ammunition storage depot; however, in December 1942, additional missions were added. Some of the missions included overhaul and modification of tanks, and the shipment of tanks, tactical vehicles, artillery, and small firearms. From 1943 until March 1944, the LSAAP was loosely combined with RRAD as the Texarkana Ordnance Center. In 1945, LSAAP was made a part of RRAD and remained as such until 1951. As a result of partial closure resulting from the BRAC 1995 mandates and ongoing utility privatizations, there are approximately 797 acres of an original 19,081 acres that have already or will soon be transferred out of Army control. Some 3,835 acres will be transferred as a result of BRAC 2005.

During World War II and the Korean War the depot served as an Ordnance Training Center (OTC) for the purpose of training officers in ordnance support. The OTC was deactivated after the Korean War, but occasionally provides training to US Army Reserve units. An off-depot parcel used by the OTC for troop training is now classified as a formerly used defense site (FUDS).

Major historic tenants at RRAD are the Defense Reutilization and Marketing Service (DRMS) (now called DLA Disposition Services), the DLA, and the RRMCMC. DRMS reuses and/or disposes of surplus items. The DLA supports seven of the eleven continental US (CONUS) divisions in an 18-state area.

RRAD was issued a part B permit for a municipal hazardous waste management site on Dec.13, 1988 (Permit No. HW-50178-000, USEPA ID No. TX 3213820738), pursuant to the Resource Conservation and Recovery Act (RCRA) as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA). Provision VIII of the permit requires RRAD to conduct RCRA facility investigations (RFIs). RFIs are required to determine whether hazardous constituents have been released into the environment. The TCEQ is responsible for enforcing the requirements of the part B permit. A ten-year permit renewal was issued December 14, 2012.

In fiscal year (FY)95 the installation formed a BRAC cleanup team and the community formed the Red River Local redevelopment authority. In FY96 the installation formed a RAB and prepared a BRAC cleanup plan (BCP). The BCP was updated in FY01.

Originally, in FY03, six Military Munitions Response Program (MMRP) sites were identified.

Later, in FY03, three of the six MMRP sites were identified as no further action (NFA), as the environmental closure was underway under the Environmental Restoration, Army (ER,A) program at these sites. This brought the total down to three MMRP sites.

In FY04 four new MMRP sites were added when concurrence with historical closure of these four long-abandoned ranges was received. This brought the total to seven MMRP sites.

In FY07 two of the seven MMRP sites became BRAC 2005 sites. This brought the total of non-BRAC RRAD MMRP sites down to five.

The resulting active phase MMRP site totals (not counting BRAC or NFA sites) went from six to three in FY03, then to seven in FY04, and to five in FY07.

The RRAD is an active US Army Facility. The major operational facilities on the depot include: maintenance and rebuild of military vehicles, demilitarization of out-of-specification ordnance, ammunition storage, maintenance, modification, and recertification of the Hawk, Chaparral, and Patriot missiles (transferring per BRAC 2005), tank track and road wheel rebuild, and rubber products maintenance. Currently, most of the acreage covered by RRAD is used for commercial forestry and ammunition storage.

BRAC 95 realigned RRAD by moving the M113 vehicle mission to other depots. The installation retained its Bradley fighting vehicle, light tactical vehicle, engineering intern training, Patriot missile, and rubber production missions.

BRAC 2005 realigned RRAD and moved the ammunition and missile recertification missions elsewhere.

Areas of environmental concern at the depot include spill sites associated with previous industrial and pre-RCRA disposal activities, and closed landfills. Trichloroethylene (TCE) and 1,1,1-trichloroethane (TCA) and their biodegradation products are the main contaminants affecting groundwater at the installation.

Cleanup Program Summary

Installation Historic Activity

The installation maintains a partnership with the TCEQ through the Defense State Memorandum of Agreement (DSMOA) program.

The building (bldg) 441 indoor weapons test range, with 1000 yard target concrete tubes, had shot traps emptied and was demolished in late 2007.

The Army has completed an inventory of closed, transferred, and transferring (CTT) ranges and sites with UXO, discarded military munitions, or MC. An additional two MMRP sites were identified after the original MMRP listings, for a total of seven sites at this installation. Remedial investigation (RI) and feasibility studies (FS) on these sites began in FY09. In 2012 the Operational Range Assessment Program completed Phase II Assessment sampling associated with Nettles Creek near the active rifle range with a report in 2013.

In FY03, the installation completed the groundwater modeling study in the Western Industrial Area (WIA) and submitted the study to regulators. Repairs were made to the chrome and storm sewers by relining with cured-in-place-piping. The Hays Plant affected property assessment report (APAR) was completed. The Army awarded a contract for removal of the chrome beds at the industrial waste treatment plant. The installation expanded sampling at the X-1 sewer treatment plant to define the extent of contamination. The installation initiated an MMRP site inspection (SI) in the active portion of the installation.

Major historical tenant operations are the DRMS, the DLA, and the RRMC. DRMS reuses and/or disposes of surplus items. The DLA supports seven of the eleven CONUS divisions in an eighteen state area. The RRMC stored, renovated, and demilitarized ammunition.

Some smaller tenant activities included the health clinic, and former school for engineering and logistics intern training (before closing in 2013 called Army Logistics Management College).

The major tenant operation is the Defense Logistics Agency (Defense Distribution Red River - Texarkana).

The RRMC closure, which occurred as a result of BRAC 2005, will result in anticipated environmental closure costs for two OB and one OD heavy demolition ranges.

The RRAD does not have any US Environmental Protection Agency (USEPA) NPL Superfund sites.

The RRAD was not on the original USEPA Government Performance and Results Act (GPRA) baseline, but RRAD is listed in the USEPA GPRA 2020 baseline.

In FY09 18,676.24 acres was recorded in the Real Property Inventory for the RRAD property size. That 18,676.24 acre number was a result of a boundary adjustment between LSAAP and RRAD due to BRAC 2005. The current RRAD acreage is calculated at 15,840.015.

Installation Program Cleanup Progress

IRP

- Prior Year Progress:**
- Continued corrective measures implementation (operations) [CMI(O)] at sites RRAD-33, 34, 44, and 48 (BRAC) and 35, 36, 37, 43, 56, 60, and 71 (IRP).
 - Continued long-term management (LTM) at RRAD-55 and RRAD-99.
 - Completed process to formally incorporate groundwater monitoring into TCEQ permit on December 14 2012 for RRAD-35, 35, 37, 43, 56, 60, and 71.
 - Continued assessment at site CC-006-RR. Fieldwork was completed in January 2013 for TCEQ requested additional assessment.
- Future Plan of Action:**
- Continuance of CMI(O) through 2015 for sites RRAD-33, 34, 44, and 48 (BRAC) and 35, 36, 37, 43, 56, 60, and 71 [Installation Restoration Program (IRP)].
 - Continuance of LTM at RRAD-55 and RRAD-99.
 - Determine the need for corrective action or additional groundwater monitoring at CC-006-RR.

Cleanup Program Summary

MMRP

Prior Year Progress: Contract awarded in 2011 with options funded in 2012 for RAs that began in 2013 on Tracer Range, Vulcan Range and D area Y Site. Requested and received contract funds in 2013 for RCRA Facility Investigations (RFI) on Demolition Area Creeks, Demolition Area Washrack/Storage/Trails, and Unpermitted Demolition Areas (sites RRAD-011-R-01/02/03).

Future Plan of Action: TCEQ approval is expected in 2014 for RAs that began in 2013 on Tracer Range, Vulcan Range and the D area Y Site.

Corrective measures studies (CMS) contract options are planned for FY14 funding and award as necessary for sites RRAD-011-R-01/02/03.

CR

Prior Year Progress: The Compliance Restoration (CR) program consists of site CC-006-RR, which is the installation's fuel station.

Additional assessment fieldwork was completed in January 2013 with soil, groundwater, and vapor sampling. A report is planned for submittal in 2013 to TCEQ, and it is possible that corrective actions to prevent exposure will be necessary.

Future Plan of Action: It is unknown at this time, but it is possible that an RA or additional duration LTM will be necessary.

RED RIVER ARMY DEPOT
Army Defense Environmental Restoration Program
Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 48/35

Installation Site Types with Future and/or Underway Phases

1	Contaminated Ground Water (PBC Red River)
1	POL (Petroleum/Lubricants) Lines (RRAD-56)
9	Spill Site Area (RRAD-35, RRAD-36, RRAD-37, RRAD-43, RRAD-60, RRAD-62, RRAD-63, RRAD-71, RRAD-73)
1	Storage Area (RRAD-99)
1	Surface Impoundment/Lagoon (RRAD-55)

Most Widespread Contaminants of Concern

Dense nonaqueous phase liquid (DNAPL), Light non-aqueous phase liquids (LNAPL), Metals, Perchlorate, Petroleum, Oil and Lubricants (POL), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern

Groundwater, Sediment, Soil, Surface Water

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY
RRAD-41	SOILS NEAR BLDG 430	FRA	WASTE REMOVAL - SOILS	1989
RRAD-55	CHROMATE EQUALIZATION LAGOON	FRA	WASTE REMOVAL - SOILS	1990
RRAD-54	SOILS AT BLDG 420	FRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1993
RRAD-56	BUILDING 315 TRANSFER STATION	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1993
RRAD-28	WOODYARD LANDFILL	IRA	CAPPING	1994
RRAD-30	POPPING FURNACE BLDG #1025	IRA	WASTE REMOVAL - SOILS	1995
RRAD-40	RAW PHOSPHATE DETENTION LAGOON, IWTP	IRA	WASTE REMOVAL - SOILS	1995
RRAD-39	FINAL LAGOON, IWTP	IRA	WASTE REMOVAL - SOILS	1997
RRAD-83	COMP BUILDING 413	FRA	REMOVAL	1997
RRAD-71	BLDG 350, FORMER NI-CAD BATTERY SHO	IRA	DUAL-PHASE EXTRACTION	2004
RRAD-62	POPPING FURNACE BLDG# 722	FRA	WASTE REMOVAL - SOILS	2005
RRAD-56	BUILDING 315 TRANSFER STATION	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	2006
PBC Red River	PBC	FRA	OTHER	2007
RRAD-35	SOIL UNDERLYING BLDG 345, NORTH WASHRACK	FRA	OTHER	2007
RRAD-36	BLDG 371 (BATTERY SHOP) SOILS	FRA	OTHER	2007
RRAD-37	SOILS UNDERLYING BLDG 373(DYNAMOMET	FRA	OTHER	2007
RRAD-43	SOILS NEAR TRANSFER PUMPS, BLDG 473	FRA	REMOVAL	2007
RRAD-56	BUILDING 315 TRANSFER STATION	FRA	OTHER	2007

IRP Summary

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY
RRAD-63	POPPING FURNACE BLDG #1027	FRA	IN-SITU SOIL TREATMENT	2007
RRAD-71	BLDG 350, FORMER NI-CAD BATTERY SHO	FRA	OTHER	2007
RRAD-60	BLDG 433, FORMER RUBBER PRODUCTS BL	FRA	REMOVAL	2011
RRAD-99	DRMO Scrap Yard	FRA	WASTE REMOVAL - SOILS	2012

Duration of IRP

Date of IRP Inception: 197803

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201207/203709

Date of IRP completion including Long Term Management (LTM): 204509

IRP Contamination Assessment

Contamination Assessment Overview

In FY14 or beyond, thirteen IRP sites will receive IRP funding, including one site for performing performance-based contract (PBC) management.

There are two LTM sites funded by RRAD that are not eligible for ER,A funding. These two Compliance-Related Cleanup (CC) program sites are the OB/OD Area and the Sludge Drying Beds.

The major concerns for releases to the environment have occurred in the Western Industrial Area (WIA), the surrounding industrial areas, and the used oil/antifreeze POL site. The primary COCs are chlorinated solvents that were used in degreasing, paint, and fuel operations. The solvents used include TCE and 1,1,1-TCA. Solvents and their degradation compounds have been found in sediments, soils, groundwater, and surface water around the maintenance area. The other contaminants of concern are heavy metals that include cadmium, chromium, lead (Pb), and nickel which are commonly found in metal finishing processes.

Solvents have contaminated the groundwater under the WIA. The contamination at the WIA has the potential to migrate off-post. Contamination and future activities at WIA are being conducted under both the ER,A and BRAC programs. Studies have been completed that determine rate and extent of groundwater contamination.

The RRAD conducted a pilot study at RRAD-71 Building (Bldg) 350 to test solvent remediation technologies. Dual phase extraction was the technology chosen by the Army to best study the practicality of removing solvents in relatively impermeable clay shale.

Due to the economic impracticability of a full scale dual phase extraction project, the planned alternatives to address DNAPL are a plume management zone (PMZ) and permeable reactive barrier (PRB) walls. The PRB walls were installed in 2007 and funded under the BRAC 1995 program.

Solvent contamination of surface water in Panther Creek is addressed through monitoring of the two PRB walls. Installation of PRB monitor wells occurred after the TCEQ agreement with the monitoring network design for the PRB walls.

A long term remediation project involving extraction of spilled or leaked fuel underneath Bldg 373 (site RRAD-37) will continue. In FY10 TCEQ approved a recommendation of no action for Panther Creek sediments, based upon a Screening Level Ecological Risk Assessment (SLERA) study and report for Panther Creek and the WIA.

Cleanup Exit Strategy

The installation reached initial IRP RIP in FY07 through having a PBC contract. Remedial action (operation) [RA(O)]/LTM, with the exception of RRAD-55, is funded under the PBC through 2015. The PBC contractor will assist in development of an exit/ramp-down strategy for all PBC sites remaining in RA(O)/LTM after FY15.

Site RRAD-99 Defense Reutilization and Marketing Office (DRMO) Scrap Yard is separate from the PBC contract, with the RFI/CMS completed in 2010, with removal of stockpiled metal contaminated soil completed in FY11, and annual inspections of a protective parking lot cap as current and future LTM.

IRP Previous Studies

	Title	Author	Date
1972	Texas Water Development Board No. 157, Survey of The Subsurface Saline Water of Texas, Vol. #7, Geologic Well Data-East Texas	Texas Water Development Board	SEP-1972
1984	Groundwater Quality Assessment OTC Area for The Army Corps of Engineers	Dames & Moore	AUG-1984
	Groundwater Quality Assessment WWT Area for The Army Corps of Engineers	Dames & Moore	AUG-1984
1987	Contaminated Soil Investigation Beneath Building #348, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	NOV-1987
1988	Remedial Investigation of Hayes Batch Treatment Plant, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUN-1988
1990	Site Assessment for Subsurface Release of Diesel Fuel at Building #333, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUN-1990
	RCRA Facility Investigation, Ordnance Training Center (OTC), Interim Status Report	US Army Corps of Engineers, Fort Worth District	JUN-1990
	Site Assessment for Sub-Surface Release of Gasoline and Diesel, Building #162 F, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUL-1990
	Environmental Noise Consultation No. 52-34-624-90 Noise Contours, Red River Army Depot	US Army Corps of Engineers	JUL-1990
	Site Assessment For Subsurface Release of Gasoline And Diesel Addendum, Building #162	US Army Corps of Engineers, Fort Worth District	AUG-1990
	Site Assessment Addendum for Subsurface Release of Diesel Fuel at Building #333	US Army Corps of Engineers, Fort Worth District	SEP-1990
1992	Soil Gas Survey- Building #345	US Army Corps of Engineers, Fort Worth District	MAR-1992
	Volumes I & II-RCRA Facility Investigation, Final Report, Includes: Buildings #430, Big Creek, Sludge Drying Beds, WWT Area, POL Pump Site, OTC Area, Panther Creek, and Pesticide Pit, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	APR-1992
	Water Quality Survey No. 31-62-GM2-92, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	APR-1992
	Building #420, Soil Investigation (Two Phases), Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAY-1992
	Geologic Siting-Industrial Waste Landfill, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	DEC-1992
1993			

IRP Previous Studies

1993

Title	Author	Date
Building #345, Interim RFI Report	US Army Corps of Engineers, Fort Worth District	APR-1993
RCRA Facility Investigation Amended Report, Sludge Drying Beds, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAY-1993
RCRA Facility Investigation Amended Report, SWMU-WWT Area, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUN-1993
RCRA Facility Investigation Amended Report, Panther Creek, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUL-1993
Interim Removal Building #265, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	SEP-1993
RCRA Facility Investigation Amended Report, POL Pump Site, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	SEP-1993
Current Status and Observation Report, Building #162, First Quarter (Jul-Sep 1993), Red River Army Depot	US Army Corps of Engineers	OCT-1993
RCRA Facility Investigation Amended Report, OTC Area, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	NOV-1993
RCRA Facility Investigation Amended Report, Pesticide Pit, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	DEC-1993

1994

RCRA Facility Investigation Addendum To the Amended Report, Pesticide Pit, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	FEB-1994
RCRA Facility Investigation for SWMU Building #333, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAR-1994
RCRA Facility Investigation For Building #333, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	APR-1994
RCRA Facility Soil Investigation, Building #1025, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	APR-1994
RCRA Facility Investigation, Building #345, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	APR-1994
Baseline Risk Assessment, Maintenance Salvage Yard, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	AUG-1994
RCRA Facility Investigation for SWMU-Building #348, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	SEP-1994
RCRA Facility Investigation, Building #348, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	SEP-1994
RCRA Facility Investigation, BB-15 Area, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	OCT-1994

IRP Previous Studies

	Title	Author	Date
1994	Report of Findings, Soil Investigation North East of Building #1025, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	NOV-1994
	Soil Investigation at Building #1027, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	NOV-1994
	Closure Report Building #1025, Demolition and Soil Excavation, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	NOV-1994
1996	RCRA Facility Investigation-Hayes Plant, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAR-1996
	BRAC 95 Program- Environmental Baseline Survey, Final Report, Red River Army Depot	US Army Corps of Engineers	DEC-1996
	Report of Findings-Soil Stock Pile Sampling, Building #1025, Red River Army Depot	US Army Corps of Engineers	DEC-1996
1997	Closure Report for Industrial Wastewater Treatment Lagoons, Building #356, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JAN-1997
	Closure Reports for Building #1025, Demolition and Soil Excavation, Volumes # I and II, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	FEB-1997
	Closure Report for the Industrial and Final Industrial Wastewater Treatment Lagoons, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAY-1997
	Data Compilation Package, Volumes #I, II, and III, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	OCT-1997
1998	Soil Background Investigation Report, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUN-1998
	RCRA Facility Assessment, Advanced Consolidated Footprint, Volumes # I & # II, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUL-1998
	Groundwater Background Investigation Report, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	SEP-1998
2000	RCRA Facility Investigation Report for Building #350, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAY-2000
	RCRA Facility Investigation Report for Building #414, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAY-2000
	RCRA Facility Investigation Report for Building #433, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAY-2000
	Final Background Characterization of Groundwater Investigation Report, Red River Army Depot	US Army Corps of Engineers	MAY-2000
	Natural Attenuation Study, Western Industrial Area	US Army Corps of	JUN-2000

IRP Previous Studies

	Title	Author	Date
2000	(WIA), Red River Army Depot	Engineers, Fort Worth District	
	Closure Report for Excavation of Contaminated Soil at the Water Tower, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUN-2000
	Remediation Report for Building #265 and Adjacent Storm Water Ditches, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	SEP-2000
	RCRA Facility Investigation Report for X-1 Sewage Treatment Plant, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	OCT-2000
2001	Natural Attenuation Study for Ordnance Training Center (OTC), Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JAN-2001
	Ordnance Training Center (OTC) Area, Semiannual Report, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JAN-2001
	Findings of Suitability to Transfer Buildings #133, 150, 154, 167, 184, 281, 286, 290, the Water Tower, the Directorate of Public Works, Storage Yard and Housing Area, Buildings #10, 20, 28, & 30	US Army Corps of Engineers, Fort Worth District	MAR-2001
	Remedial Action Completion Report for North and South Storm water Lagoons	US Army Corps of Engineers, Fort Worth District	MAY-2001
	Response Action Completion Report (2 Volumes) North and South Storm water Lagoons and UST at Building 334A	US Army Corps of Engineers, Fort Worth District	MAY-2001
	Monitored Natural Attenuation Evaluation, OTC (Ordnance Training Center) Landfill	US Army Corps of Engineers, Fort Worth District	NOV-2001
2002	2001 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2002
2003	2002 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2003
2004	2003 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2004
	Building 172 Release Investigation Report	Installation	MAR-2004
	Industrial Wastewater Treatment Plant Release Investigation Report	Installation	APR-2004
2005	2004 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2005
	Response Action Completion Report Bldg 722	Cape	JUL-2005

IRP Previous Studies

Title	Author	Date
-------	--------	------

2005

Corrective Measures Implementation Plan for the OTC Area	Parsons / US Army Corps of Engineers, Fort Worth District	DEC-2005
--	---	----------

2006

2005 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2006
Amended Affected Property Assessment Report 1313 Landfill	Installation	JAN-2006
Draft Final Supplemental Affected Property Assessment Report for Bldg 1027 Area	Kemron / US Army Corps of Engineers, Fort Worth District	MAR-2006
Draft Final Response Action Plan for Bldg 1027 Area	Kemron / US Army Corps of Engineers, Fort Worth District	JUN-2006
Final Project Summary Report - Removal of Above Ground Storage Tank #319	Toltest Inc.	JUN-2006
Semi-Annual Report for OTC Area	US Army Corps of Engineers, Fort Worth District	JUL-2006
Draft Final Response Action Plan Bldg 371	Kemron / US Army Corps of Engineers, Fort Worth District	AUG-2006
Draft Final Response Action Plan for Bldg 473	Kemron / US Army Corps of Engineers, Fort Worth District	AUG-2006
Final Affected Property Assessment Report for Bldg 473	Kemron / US Army Corps of Engineers, Fort Worth District	AUG-2006
Final Affected Property Assessment Report Bldg 371	Kemron / US Army Corps of Engineers, Fort Worth District	AUG-2006
Final Affected Property Assessment Report for Bldg 373	Kemron / US Army Corps of Engineers, Fort Worth District	SEP-2006
Draft Final Response Action Plan for Bldg 373	Kemron / US Army Corps of Engineers, Fort Worth District	SEP-2006
Response Action Plan for WIA and Panther Creek	Kemron / US Army Corps of Engineers, Fort Worth District	DEC-2006

2007

2006 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2007
Draft Final Affected Property Assessment Report for Bldg 433	Kemron / US Army Corps of Engineers, Fort Worth District	FEB-2007
Semiannual Report for OTC Area	US Army Corps of Engineers, Fort Worth District	JUL-2007
Affected Property Assessment Report for WIA	Kemron / US Army Corps of Engineers, Fort Worth District	DEC-2007

IRP Previous Studies

	Title	Author	Date
2008	2007 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2008
	Response Action Completion Report Bldg 1027	Kemron / US Army Corps of Engineers, Fort Worth District	FEB-2008
	Semi-Annual Report for OTC and Sludge Drying Beds Areas	Fort Worth District US Army Corps of Engineers	JUL-2008
	Response Action Plan for Bldg 371	Kemron / US Army Corps of Engineers, Fort Worth District	AUG-2008
	Draft Response Action Completion Report Bldg 473	Kemron / US Army Corps of Engineers, Fort Worth District	OCT-2008
2009	2008 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2009
	2009 Semi-Annual Report for OTC Landfill and Sludge Drying Beds	US Army Corps of Engineers, Fort Worth District	JUL-2009
	Final Ecological Reference Location Field Evaluation and Comparison Report for the Western Industrial Area and Panther Creek	Kemron Environmental Services	NOV-2009
2010	2009 Annual Report for OTC Landfill, Sludge Drying Beds, Chromate Equalization Lagoon, and OB/OD Areas	US Army Corps of Engineers, Fort Worth District	JAN-2010
	1st Year Data Summary Report Bldgs 371, 373, 433, 473	Kemron Environmental Services, Marietta Ohio	APR-2010
	1st Year Data Summary Report Western Industrial Area (WIA)	Kemron Environmental Services, Marietta Ohio	MAY-2010
	2010 Semi-Annual Report for OTC Landfill and Sludge Drying Beds	US Army Corps of Engineers, Fort Worth District	JUL-2010
	Response Action Completion Report for Building 433	Kemron Environmental Services, Marietta Ohio	JUL-2010
	Final Response Action Plan Closed DRMO Area	Tetra Tech NUS Inc, Houston, TX	OCT-2010
	Corrected Final Affected Property Assessment Report Closed DRMO Area	Tetra Tech NUS Inc, Houston, TX	OCT-2010
2011	2010 Annual Report for OTC Landfill, Sludge Drying Beds, Chromate Equalization Lagoon, and OB/OD Areas	US Army Corps of Engineers, Fort Worth District	JAN-2011
	Response Action Effectiveness Report, Western Industrial Area	Kemron Environmental Services, Marietta Ohio	MAY-2011
	Response Action Effectiveness Report, Buildings 371, 373, 433, and 473-POL	Kemron Environmental Services, Marietta Ohio	MAY-2011
	2011 Semi-Annual Report	US Army Corps of Engineers, Fort Worth District	JUL-2011
2012			

IRP Previous Studies

	Title	Author	Date
2012	2011 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2012
	2011 Annual Report for WIA, and Bldgs 371, 373, 433, and 473	Kemron Environmental Services	APR-2012
	Final Response Action Completion Report, Removal of Stockpiled Soil North of Bldg 421N (DRMO Scrap Yard)	Cape	APR-2012
2013	2012 Annual Report for OTC, OB/OD, CEL, Sludge Drying Beds	Kemron Environmental Services	JAN-2013
	2012 Annual Report for WIA, and Bldgs 371, 373, 433, and 473	Kemron Environmental Services	JAN-2013

RED RIVER ARMY DEPOT
Installation Restoration Program
Site Descriptions

Site ID: PBC Red River

Site Name: PBC

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Dense nonaqueous phase liquid (DNAPL), Metals, Petroleum, Oil and Lubricants (POL), Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Soil, Surface Water

Phases	Start	End
RFA.....	200009.....	200109
CMI(C).....	200508.....	200709
CMI(O).....	200709.....	201509

RIP Date: 200709

RC Date: 201509

SITE DESCRIPTION

This site is for funding a PBC with Kemron Environmental Services. The contract is administered by the USACE. The IRP and BRAC sites are covered under this multiyear contract.

The IRP sites subject to this funding are RRAD-35, 36, 37, 43, 56, 60 and 71. Separately funded under the BRAC Red River site are RRAD-33, RRAD-34, RRAD-44, and RRAD-48.

Program and contract management costs for the USACE are also funded under PBC Red River.

The contract awarded in August 2005 is to reach RIP/RC at these sites to include any RA(O), CMI(O), and LTM through 2015. Any additional RA(O), CMI(O), LTM after 2015 will be addressed under each individual site. Progress to date is captured under individual site descriptions.

CLEANUP/EXIT STRATEGY

The performance-based acquisition (PBA) fulfills the purpose of the RIP/RC exit strategy. The current PBA contractor's schedule had final submittals of investigations and remedial plans to the state in April 2008 for most sites except Panther Creek (BRAC 1995) and RRAD-60, which have since been made RIP. More detailed cleanup strategies are described under each individual site description.

Site ID: RRAD-35

Site Name: SOIL UNDERLYING BLDG 345, NORTH WASHRACK

STATUS

Regulatory Driver: RCRA

RRSE: HIGH

Contaminants of Concern: Dense nonaqueous phase liquid (DNAPL), Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	197803.....	197807
RFI/CMS.....	199109.....	200709
CMI(C).....	200508.....	200709
CMI(O).....	200508.....	203709
LTM.....	203710.....	204509

RIP Date: 200709

RC Date: 203709

SITE DESCRIPTION

Bldg 345 is located in the center of the WIA. This two-story building of approximately 300,000 square feet, was built in 1942 and accommodates mechanical tear down, metal finishing, and re-build of military vehicles. There were an unknown number of solvent (TCE, TCA) spills during the 1950s and 60s. This site is still active; however, TCE and TCA are no longer being used at the depot.

Chlorinated solvents have been detected in the groundwater since 1991. These solvents are potentially causing a threat of exposure in surface water (Panther Creek).

The contaminated soil is covered by the building and is, in part, covered by the building or asphalt/concrete, and is on top of a several hundred feet thick layer of dense clay shale.

A building vapor intrusion (ambient air) study was conducted from August 2000 to May 2001, and vapors were detected. RRAD-35 is one of three non-BRAC sites within the WIA solid waste management unit (SWMU). RRAD-35 has solvents contaminating the groundwater in a PMZ. During FY13 there is planned to be a contract for partial well abandonment plugging as approved by the TCEQ on August 25, 2011.

There will be an 8 year duration LTM phase from FY38 through FY45 consisting of only one 5-year review in FY43. The LTM phase is necessary because there is a deed notice associated with the PMZ and commercial / industrial use only LUC. Current Army Environmental Command rules limit the total future duration of CMI(O) plus LTM phases to 30 years. Since there is a LUC restricting the site only to commercial/industrial usage, it has been determined per an Army Environmental Command Strategy Review in 2011 that a five-year review is necessary to monitor the LUC during LTM.

CLEANUP/EXIT STRATEGY

This site is part of the proposed WIA PMZ, which on Dec. 14, 2012 was incorporated into the RCRA compliance plan permit. LTM will continue and will consist of monitoring solvent contaminated groundwater, and LUC. The WIA PMZ has been deed recorded.

In August 2005, a PBC was awarded to Kemron Environmental Services Inc., to bring the site to RIP/RC and perform monitoring until 2015. Requirements for the corrective measures-construction [CMI(C)] and CMI(O) are funded under the AEDB-R site PBC Red River.

Site ID: RRAD-36

Site Name: BLDG 371 (BATTERY SHOP) SOILS

STATUS

Regulatory Driver: RCRA

RRSE: MEDIUM

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	199207.....	199207
RFI/CMS.....	199811.....	200709
CMI(C).....	200508.....	200709
CMI(O).....	200508.....	203709
LTM.....	203710.....	204409

RIP Date: 200709

RC Date: 203709

SITE DESCRIPTION

Bldg 371 is used as a battery shop where large, wet cell, Pb-acid forklift batteries are recharged and stored. The building was formerly used for dynamometer testing and had solvent cleaning vats.

TCE contamination has been present in monitoring wells (MW) around Bldg 371. Groundwater TCE has exceeded protective concentration levels (PCLs). Soil PCLs have not been exceeded.

A revised APAR and a response action plan (RAP) have been completed and approved by the TCEQ.

The process for incorporation of the RA plan approved PMZ for the site into the RRAD permit LTM began in FY10, and was completed with issuance of permit 50178 renewal on Dec. 14, 2012.

In 2009, a 1.17-acre PMZ was established; the recorded deed had a restriction for commercial / industrial usage, a Response Action Effectiveness Report in 2011, and groundwater monitoring reports. The CMI(O) phase, comprised of groundwater monitoring operations and professional labor management is expected to continue under site ID PBC Red River through FY15, then site RRAD-36 from FY16 through FY37. There will be an eight year duration LTM phase from FY38 through FY44 consisting of only one five-year review in FY43 associated with the deed notice associated with the PMZ LUC.

CLEANUP/EXIT STRATEGY

In August 2005, a PBC was awarded to Kemron Environmental Services, Inc. to bring the site to RIP/RC, and perform monitoring until 2015. Kemron has revised the APAR in accordance with the TCEQ's comments and received concurrence.

On Dec. 14, 2012 this site was incorporated into the RCRA permit as part of WIA PMZ monitoring. The WIA PMZ has been deed recorded.

The response action is a PMZ and MNA.

Requirements for the CMI(C) and CMI(O) are funded under the AEDB-R site PBC Red River.

LTM of solvent contaminated groundwater will be funded under site RRAD-36 after FY15.

Site ID: RRAD-37

Site Name: SOILS UNDERLYING BLDG 373(DYNAMOMET

STATUS

Regulatory Driver: RCRA

RRSE: MEDIUM

Contaminants of Concern: Light non-aqueous phase liquids (LNAPL), Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	197803.....	197807
CS.....	199712.....	199805
RFI/CMS.....	199811.....	200709
CMI(C).....	200508.....	200709
CMI(O).....	200508.....	203709
LTM.....	203810.....	204409

RIP Date: 200709

RC Date: 203709

SITE DESCRIPTION

RRAD-37 has releases of petroleum products contaminating the groundwater, for which monitoring began in 2008. Building 373 was originally a 39,478 square foot building constructed in 1947, which has had several expansions since then. The primary use of the facility has been for work on engines and transmission, including dynamometer testing. The historical source for gasoline, diesel, and JP-8 fuels used in building 373 was underground fuel lines from the adjacent Fuel Station associated with building 393. An Affected Property Assessment Report and Response Action Plan was finalized in September 2006, a Deed Recordation of a Plume Management Zone and commercial / industrial land usage restriction in 2009, a First Year Data Summary Report was completed in April 2010, a Response Action Effectiveness Report was dated May 2011, and an Annual Report in January 2013. Vacuum extraction of petroleum product contaminated groundwater from under building 373 has been occurring quarterly since 2008, and will continue until remediation is complete. Regardless of vacuum extraction results there will continue to be a long term requirement for groundwater monitoring of a plume management zone and LUC (commercial/industrial use only) that was documented in a deed notice and decision document (DD).

Actions at this site through FY15 are included in the PBA. Post-PBA groundwater monitoring cost-to-complete (CTC) is based on-site contract costs for FY14.

A five-year review cost is derived from a Fort Benning Government Cost Estimate developed by the USACE Environmental and Munitions Center of Expertise (EM CX) dated Jan. 7, 2013. The USACE EM CX has determined that the Fort Benning estimate is suitable for RRAD, as the installation site complexity, contaminants, and number of sites is similar.

There will be a single five-year review in FY43 during LTM phase. The LTM phase for five-year review is an Army Environmental Command (USAEC) recommendation in FY12 for sites with LUCs. The CMI(O) phase will end in FY37, and the LTM phase will begin in FY38 and end in FY44 so there is a total of 30 years of combined CMI(O) and LTM programmed in the CTC database, as per USAEC Strategy Review recommendations. LUCs for this site are established by a deed notice for the Plume Management Zone and restriction to commercial/industrial usage only.

CLEANUP/EXIT STRATEGY

In August 2005 a PBC was awarded to Kemron Environmental Services Inc., to bring the site to RIP/RC and perform monitoring through FY15.

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River.

A PMZ was deed recorded on Nov. 2, 2009.

The response actions are monitoring of a PMZ, groundwater extraction, and MNA.

Site ID: RRAD-37
Site Name: SOILS UNDERLYING BLDG 373(DYNAMOMET

LTM will be funded under site RRAD-37 after FY15.

In FY10 work began on a RCRA permit application to formally incorporate this site's PMZ into the installation compliance plan permit monitoring program. The new permit was issued Dec. 14, 2012.

In FY13 CMI(O) phase vacuum extraction of fuel from recovery well number 373-MW6 continues under the Kemron Environmental Services Inc. PBC contract.

Site ID: RRAD-43

Site Name: SOILS NEAR TRANSFER PUMPS, BLDG 473

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Polycyclic Aromatic Hydrocarbons (PAH), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198812.....	198812
RFI/CMS.....	199012.....	200709
DES.....	200508.....	200709
CMI(C).....	200508.....	200709
CMI(O).....	200508.....	203709
LTM.....	203810.....	204409

RIP Date: 200709

RC Date: 203709

SITE DESCRIPTION

This site is located in the northeast portion of the Depot and south of non-associated Bldg 473. This site is also called the 'POL Pump Site;' it has four aboveground storage tanks (AST) that contain used POL and used antifreeze. The soil is contaminated from past activities with hydrocarbons, solvents, and antifreeze spills at the transfer pump site. IRP eligibility is due to historic release of solvents (TCE) from either product lines, pumping/storage operations, or from one of the four storage tanks.

RRAD-43 is a former fuel station constructed in 1976 which is located across Texas Avenue from building 473. The site has three above ground 10,000 gallon storage tanks and one 20,000 gallon tank inside concrete berm No. 454. One of the storage tanks was formerly used for storing used solvents, which apparently was a source for spills or leaks to soil and groundwater that occurred before the gravel floor berm was retrofitted with a concrete floor. A RA was completed in 2008 on soils contaminated with vinyl chloride, 1,1-dichloroethene and 1,1,1- TCA, and which completed removal of the pump island. The storage tanks are currently used for storage of used process water from power washers, used antifreeze, and used oil and fuel. A PMZ for solvents contaminating the groundwater was established in 2009, along with a deed recordation LUCs for contaminants remaining in place that do not meet Texas residential protective concentration standards.

Groundwater has been impacted with solvents. Soil has been impacted with total petroleum hydrocarbons (TPH). The primary concern for this site is the use of VOCs, which occurred prior to 1987. Solvents are no longer being used. A concrete liner was added to the bermed floor several years ago. An APAR was submitted to the TCEQ in 2004 and 2005. State comments on the APAR were received in January 2006. A revised APAR and RAP were submitted to the TCEQ. Additional TCEQ comments were received, and new wells were installed in order to address comments. The APAR and RAP were approved by the TCEQ in November 2008.

A soil removal action of the site's abandoned pump island and investigation of underground piping were carried out in late 2007. The removal included sampling subsurface pipelines and removal of the pump island and contaminated soils not under storage tank related berm structures.

The Response Action Completion Report (RACR) for this remediation was approved by the TCEQ in February 2009. The PMZ and the soil remediation area have been deed recorded. Incorporation of the site into the RRAD permit for CMI(O) and LTM are underway. Actions at this site through FY15 are included in the PBA. Post-PBA CTC is long term groundwater monitoring, and is based on contract costs from FY14.

CLEANUP/EXIT STRATEGY

In August 2005, a PBC was awarded to Kemron Environmental Services Inc., to bring the site to RIP/RC and perform monitoring until 2015.

Site ID: RRAD-43

Site Name: SOILS NEAR TRANSFER PUMPS, BLDG 473

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River.

Response actions include a completed soil excavation project, and continued groundwater monitoring.

LTM will be funded under this site.

A PMZ and commercial/industrial restricting LUC was established through a Nov. 2, 2009 Deed Notice. Five-year reviews are planned under LTM phase after CMI(O) phase is completed.

In FY10 work began on a RCRA permit application to formally incorporate this site's PMZ into the installation compliance plan permit monitoring program. The new permit was issued Dec. 14, 2012.

Site ID: RRAD-55

Site Name: CHROMATE EQUALIZATION LAGOON

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Metals, Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
RFA.....	197803.....	197807
CS.....	198105.....	198105
DES.....	198805.....	198808
CMI(C).....	198812.....	198912
LTM.....	198912.....	202009

RIP Date: N/A

RC Date: 198912

SITE DESCRIPTION

The Chromate Equalization Lagoon (CEL) area was located at the Industrial Waste Treatment facility and served as the raw collection point for electroplating rinse water. The lagoon was about 65 feet width by 95 feet length and operated from 1978 to 1989. The area was excavated upon closure and now part of the former lagoon is covered with industrial wastewater storage tanks and associated concrete containment berms.

In June 2001 this site was incorporated into the Compliance Plan.

In 2005 and 2006, arsenic and 1,1 dichloroethylene (DCE) detections exceeded groundwater practical quantitation levels. In November 2006 a class III Permit Modification application was submitted to establish alternate Groundwater Protection Standards. The modification was approved in February 2008.

From October 2010 semiannual sampling there was an analytical concentration exceedance of the groundwater protective standard for LEAD in monitor well CEL-14.

RRAD-55 is separate from the PBC awarded in 2005 for most other ER,A program sites.

The RRAD-55 property, as part of the industrial wastewater treatment plant (IWTP) site, was subject to the utility privatization initiative funded by BRAC 2005.

CLEANUP/EXIT STRATEGY

Under compliance monitoring, per RCRA permit requirements, RRAD groundwater sampling will continue at least through 2019. A five-year review is planned for 2018. Well plugging and site close-out is planned for 2020.

Site ID: RRAD-56

Site Name: BUILDING 315 TRANSFER STATION

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198606.....	198701
CS.....	198606.....	198701
RFI/CMS.....	199712.....	200709
IRA.....	199306.....	200606
CMI(C).....	200508.....	200709
CMI(O).....	200508.....	203709
LTM.....	203710.....	204509

RIP Date: 200709

RC Date: 203709

SITE DESCRIPTION

This transfer station is located at the north end of Bldg 315 within the WIA. The site was used to transfer diesel fuel to an AST. An abandoned 420,000 gallon storage tank (No. 319) was a past remnant of the station. TCE was detected in the groundwater, in the vicinity of the transfer station. The source of the contamination is thought to be solvent spills or releases into a former drainage ditch located on the western portion of the site.

Bldg 315, which is part of the WIA, is part of RRAD compliance plan SWMU No. 14.

In June through August 1993 an UST that was part of the transfer station was removed. This was done as part of a contract that removed all the remaining formerly active underground storage tanks at Red River Army Depot.

In May 2006 the above ground heating fuel (No. 2) storage tank No. 319 was cleaned, demolished and removed by Iseler Demolition Inc, under subcontract to Toltest Inc. The tank's slab was not removed as part of this project. In June 2006 a final project summary report for the tank removal was received. Tank removal was accomplished to free the property for parking and storage lots, but this plan was superseded by a need to construct administrative buildings.

CLEANUP/EXIT STRATEGY

In August 2005 a PBC was awarded to Kemron Environmental Services Inc., to bring the site to RIP/RC and perform monitoring until 2015.

Requirements for the CMI(C) (funded in FY05) and underway CMI(O) are funded under the AEDB-R site PBC Red River through FY15.

This site is part of the WIA PMZ, along with IRP sites RRAD-35 and RRAD-71, and BRAC sites RRAD-33, RRAD-34, RRAD-44, and RRAD-48. LTM will continue and will consist of groundwater monitoring under CMI(O) phase, and a five-year review of the LUC (commercial/industrial use only deed notice and PMZ) under LTM phase.

In FY10 work began on a RCRA permit application to formally incorporate this site's PMZ (part of WIA) into the installation compliance plan monitoring program. The permit renewal / major modification issuance accomplishing this was dated Dec. 14, 2012.

Site ID: RRAD-60

Site Name: BLDG 433, FORMER RUBBER PRODUCTS BL

STATUS

Regulatory Driver: RCRA

RRSE: HIGH

Contaminants of Concern: Metals, Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	199408.....	199409
CS.....	199410.....	199504
RFI/CMS.....	199510.....	200709
DES.....	200508.....	200709
CMI(C).....	201005.....	201010
CMI(O).....	200508.....	203709
LTM.....	203810.....	204409

RIP Date: 201010

RC Date: 203709

SITE DESCRIPTION

RRAD-60 building 433 is a formerly 32,906 square foot building constructed in 1942 which was used for removing and replacing rubber on vehicle tracks and road wheels. Solvent vats were used in operations in the building until the 1980s. The building has been partially demolished and partially renovated and is currently used for administrative and storage operations.

Solvent contamination of groundwater and remaining contaminated soil exceeding Texas residential protective concentration limits required the establishment of a 12.962 acre area surrounding building 433 with a LUC of a PMZ and deed notice recordation in 2010.

The CMI(O) phase, comprised of groundwater monitoring and professional labor management is expected to run from FY2016 through FY2037 (22 years) in order to meet state requirements for 30 years of monitoring. Monitoring began in 2008. In addition, since there is a LUC with contamination left in place, there will be another eight years of LTM phase (FY38 through FY44) to consist of a five-year review in FY43. There is currently an USAEC limit of 30 years of combined CMI(O) plus LTM.

Building 433 is located east of Bldg 443, south of Bldg 431, and west of new Maneuver Systems Sustainment Center facilities at the northeast portion of the RRAD maintenance area. 433 was used for rubber stripping, re-building of road wheels for tracked vehicles, 1,1,1-TCA vapor degreasing, adhesive application booths, paint operations, sand blasting, and injection molding operations for light tracked armored vehicles. Rubber operations ceased at 433 in the early-1980s and this building is currently used for administrative offices and storage.

There were releases of solvents from vats located in the north end of 433. Samples collected from the soil and groundwater indicated contamination above PCLs.

TCA and TCE degradation products have been detected in groundwater and soil. The groundwater plume appears to extend northwest from Bldg 433 up to Bldg 441.

Bldg 433 is listed in the RRAD compliance plan as SWMU No. 9.

Actions at this site through FY15 are included under the PBA. Post-PBA CTC is based on contract costs for FY14.

In FY10 the TCEQ concurred that this site had class III groundwater based upon an additional monitor well that was emplaced/tested, and as a result gave final approval of the APAR and RAP.

A soil RA of lead contaminated soil not under roads/driveways/buildings to establish commercial/industrial (not residential) protective standards was conducted by Kemron Environmental Services Inc. in May 2010 at the north end of building 433, with a report dated July 2010. The TCEQ approved the related Response Action Completion Report in October 2010.

Site ID: RRAD-60

Site Name: BLDG 433, FORMER RUBBER PRODUCTS BL

CLEANUP/EXIT STRATEGY

In August 2005 a PBC was awarded to Kemron Environmental Services Inc., to bring the site to RIP/RC and perform monitoring through 2015.

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River. After FY2015 funding is expected to occur under site RRAD-60.

In May 2010 a soil remediation project occurred under the existing PBC contract to address shallow Pb contaminated soils at the north end of Bldg 433. THE TCEQ concurred with the RACR and the Deed Notice (restricting soil from residential usage) in October 2010.

In FY10 the TCEQ concurred that this site had class III groundwater, based upon an additional monitor well that was emplaced/tested, and as a result gave final approval of the APAR and RAP.

The groundwater monitoring of a PMZ and associated LUC will continue indefinitely. The LTM phase will consist of a five-year review after CMI(O) phase completion.

In FY13, TCEQ approved a RCRA permit renewal application to formally incorporate this site's PMZ into the installation compliance plan groundwater monitoring program.

Site ID: RRAD-62
Site Name: POPPING FURNACE BLDG# 722

STATUS

Regulatory Driver: RCRA
RRSE: LOW

Phases	Start	End
RFA.....	197803.....	197807
CS.....	198105.....	198105
RFI/CMS.....	199712.....	200304
DES.....	200305.....	200406
CMI(C).....	200407.....	200507
LTM.....	201302.....	204309

RIP Date: N/A

RC Date: 200507

SITE DESCRIPTION

Building 722 was used for ammunition incineration from 1956 to ~1978. The building pad at the site is currently used for a metal and paper recycling center, and in 2000-2010 the area was formerly used for vehicle storage or training for National Guard or Army Reserve.

Building 722 was a building that formerly contained two small ammunition item incinerators (popping furnaces) and associated equipment inside and outside the main building for performing ammunition demilitarization. A remediation project of metal and explosive contaminated soil occurred in 2004-2005, and the TCEQ approved the completed Response Action Completion Report in July 2005. Remediation (soil removal) was only to commercial/industrial protective concentration levels, and not residential clean up levels, so a deed notice was filed with the county and RRAD Master Planning. The installation commander signed the deed notice on August 22, 2006, and TCEQ acknowledged and approved the deed notice Oct. 6, 2006. Since there is a LUC restricting the site only to commercial/industrial usage, it has been determined per an Army Environmental Command Strategy Review in 2011 that five-year reviews are necessary to monitor the LUC.

CLEANUP/EXIT STRATEGY

LTM, consisting of five-year reviews, will be performed since the site does not have un-restricted usage, due to the 8.231 acre deed notice concerning metals left in place that do not meet TCEQ Texas Risk Reduction Program residential clean-up standards.

Site ID: RRAD-63

Site Name: POPPING FURNACE BLDG #1027

STATUS

Regulatory Driver: RCRA
RRSE: MEDIUM

Phases	Start	End
RFA.....	197803.....	197807
CS.....	198105.....	198105
RFI/CMS.....	199006.....	200409
DES.....	200410.....	200709
CMI(C).....	200508.....	200709
LTM.....	201302.....	204309
RIP Date: N/A		
RC Date: 200709		

SITE DESCRIPTION

Buildings 1027 and 1025 were located just north of the OB/OD grounds. Building 1025 ceased operation in the mid-1980s and was removed in the mid-1990s. Building 1027 was in operation from 1956-1976, with some failed trial burns after that period. Building 1027 was partially dismantled in the late-1990s (two walls and the foundation remain) and is an interim status RCRA-regulated unit. An IRA was completed in FY95 and FY96 which addressed the bulk of the source contamination. Building 1025 was totally removed. The floor, 2 walls, and auxiliary shed remain at Building 1027. These incinerators were used to thermally treat obsolete or off-specification munitions. Cadmium and lead had been detected in the soil. In some areas, the contaminants exceeded the human health risk levels. In addition to soil contamination, munitions debris was visible on the site. Munitions debris is material which was processed in the incinerator and fell onto the ground.

Groundwater monitor wells were plugged in early 2007, as there was no groundwater contamination.

A soil and sediment FRA under PBC contract was completed in August 2007 by MKM Engineers Inc under subcontract to Kemron Environmental Services Inc.. A response action completion report was submitted to the TCEQ in February 2008.

A deed notice was signed on Aug. 2, 2008 notifying that the affected area surrounding former buildings 1025 and 1027 was not remediated to residential usage soil standards.

Building 1027 was a building that formerly contained an ammunition item incinerator (popping furnace) and associated equipment inside and outside the main building for ammunition demilitarization. A final Response Action Completion Report on soil remediation of metal contaminated soil was approved by the TCEQ on Oct. 6, 2008. Remediation (soil removal) was only to commercial/industrial protective concentration levels, and not residential clean up levels, so a deed notice was filed with the county and RRAD Master Planning. The installation commander signed the deed notice August 2, 2008, and TCEQ acknowledged and approved the deed notice on Sept. 24, 2008. Since there is a LUC restricting the site only to commercial/industrial usage, it has been determined per an USAEC Strategy Review in 2011 that five-year reviews are necessary to monitor the LUC.

A five-year review cost is derived from a Fort Benning Government Cost Estimate developed by USACE EM CX dated Jan. 7, 2013. That estimate was for 13 sites, so the individual site cost would be divided by 13. The six five-year reviews is the total CTC.

The USACE EM CX has determined that the Fort Benning estimate is suitable for RRAD, as the installation site complexity, contaminants, and number of sites is similar.

The current CTC is for beginning five-year reviews for the LTM phase in Feb. 2018. There will be five-year reviews for 30 years consisting of six five-year reviews to occur in the month February of 2018, 2023, 2028, 2033, 2038, and 2043.

Site ID: RRAD-63
Site Name: POPPING FURNACE BLDG #1027

CLEANUP/EXIT STRATEGY

LTM, consisting of five-year reviews, will be performed since the site does not have unrestricted usage, due to a 65.415 acre deed notice concerning metals left in place that do not meet Texas residential cleanup standards.

Site ID: RRAD-71

Site Name: BLDG 350, FORMER NI-CAD BATTERY SHO

STATUS

Regulatory Driver: RCRA

RRSE: MEDIUM

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	199610.....	199701
CS.....	199802.....	199806
RFI/CMS.....	199811.....	200709
IRA.....	200305.....	200409
CMI(C).....	200508.....	200709
CMI(O).....	200508.....	203709
LTM.....	203710.....	204509

RIP Date: 200709

RC Date: 203709

SITE DESCRIPTION

Bldg 350, within the WIA, was used for the maintenance of nickel-cadmium (Ni-Cad) batteries. A floor drain that led to a concrete pit outside the building is suspected of having leaked. This site initially was identified as a BRAC site, but was changed to IRP in 1997.

Historical spills of VOCs into the drainage ditch east of Bldg 350 are a probable source of the majority of contamination at this site. High levels [690 parts per million (ppm)] of solvents were detected in the groundwater. No contamination was detected in air samples. From Nov. 18, 2003 to April 8, 2004, the US Army performed a dual phase extraction pilot study of solvent extraction from groundwater at Bldg 350 and concluded that it was not economically practical to address DNAPL recovery. The TCEQ disagreed and requested completion of a non-aqueous phase liquids (NAPL) assessment at the WIA, and implementation of an effective NAPL recovery system to satisfy NAPL Response Action Triggers, for the purpose of protecting Panther Creek from additional exposure to dissolved and/or NAPL COC.

Actions at this site through FY15 are included in the PBA. Post-PBA CTC is based on contract costs for FY14.

CLEANUP/EXIT STRATEGY

This site is part of the WIA PMZ, along with IRP sites RRAD-35 and RRAD-56, and BRAC sites RRAD-33, RRAD-34, RRAD-44, and RRAD-48. Future actions consist of continued groundwater monitoring and a five-year review of the PMZ LUC.

In August 2005 a PBC was awarded to Kemron Environmental Services, Inc. to bring the site to RIP/RC and perform monitoring through 2015. It will be necessary to continue monitoring of the solvent contaminated groundwater after FY15.

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded annually under the AEDB-R site PBC Red River through FY15. Beginning in FY16 it is expected that CMI(O) then LTM will be funded under site RRAD-71.

In FY10 work began on a RCRA permit application to formally incorporate this site's PMZ into the installation compliance plan (CP) groundwater monitoring program. Formal approval was received Dec. 14 2012 with TCEQ's issuance of a renewed CP permit with major modifications.

Site ID: RRAD-73

Site Name: BLDG 414, GEN STORAGE BLDG, DIRT FLOOR

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Phases	Start	End
RFA.....	199610.....	199701
CS.....	199802.....	199903
RFI/CMS.....	199908.....	199909
LTM.....	201302.....	204309

RIP Date: N/A

RC Date: 199909

SITE DESCRIPTION

Bldg 414 was a former multi-purpose dirt floored general warehouse building that was investigated as it was originally planned that the building would be transferred as part of BRAC 1995. The transfer never occurred, but the BRAC environmental investigation found soil inside the building that had benzo(a)pyrene above the TCEQ soil-air ingestion level that would allow residential usage. Since the soil only met commercial/industrial protective concentration levels, and not residential levels, as a result a deed notice was filed with the county and RRAD Master Planning. The installation commander signed the deed notice July 1, 2003, and TCEQ acknowledged and approved the deed notice August 28, 2003. Bldg 414 was demolished in 2008-2009 for construction of parts of the new Maneuver Systems Sustainment Center (MSSC), and probably most of the contaminated soil was excavated and removed to the New Boston municipal landfill. The deed notice remains because it is uncertain if the soil excavation was made to sufficient depth to address all the contamination.

Since there is a LUC restricting the site only to commercial/industrial usage, it has been determined per an USAEC Strategy Review in 2011 that five-year reviews are necessary to monitor the LUC.

A five-year review cost is derived from a Fort Benning Government Cost Estimate developed by USACE EM CX dated Jan. 7, 2013. That estimate was for 13 sites, so the individual site cost would be divided by 13. The six five-year reviews equals the total CTC.

The USACE EM CX has determined that the Fort Benning estimate is suitable for RRAD, as the installation site complexity, contaminants, and number of sites is similar.

The current CTC is for beginning five-year reviews for the LTM phase in February 2018. There will be five-year reviews for 30 years consisting of six five-year reviews to occur in February 2018, 2023, 2028, 2033, 2038, and 2043.

CLEANUP/EXIT STRATEGY

LTM consists of five-year reviews, since the site does not have unrestricted land usage due to the deed notice that the benzo(a)pyrene concentration of 1.74 mg/kg in soil met the Texas soil Risk Reduction Standard No. 2 for commercial use, but does not meet the standard for residential use. The TCEQ said in a letter dated June 10, 2003 that no post-closure care or engineering controls are required. The exact area and depth of contamination remaining in soil after building 414 was demolished and replaced by the construction of the new MSSC is an unknown.

Site ID: RRAD-99
Site Name: DRMO Scrap Yard

STATUS

Regulatory Driver: RCRA
RRSE: LOW
Contaminants of Concern: Metals
Media of Concern: Soil

Phases	Start	End
RFA.....	200301.....	200803
RFI/CMS.....	200810.....	201103
CMI(C).....	201112.....	201207
LTM.....	201210.....	204209

RIP Date: N/A

RC Date: 201207

SITE DESCRIPTION

This site was a largely an open dirt field area of about six acres that was in use for several decades to store junk metal material prior to sale for metal recycling. It is adjacent to another area of about six acres with dirt floor buildings where scrap material was formerly stored. The total acreage of both areas is about 12.

An APAR was completed in October 2010, and that and the RAP were granted TCEQ regulator concurrence on Feb. 8, 2011. The approved actions are annual inspections / maintenance of a parking lot cap that prevents contaminated metal soil exposure, and inspections began in FY12. The soil under the cap (ie parking lot No. 57B) does not meet commercial / industrial standards for the metal lead.

In FY12 the plugging of the monitor wells occurred.

Disposal of stockpiled soil from grading / redevelopment of part of the eastern half of the site into a new gravel storage lot was funded and occurred in FY12. The report on stabilization and landfill disposal of the stockpiled soil was approved by the TCEQ in FY12.

CLEANUP/EXIT STRATEGY

A contract for an RFI was awarded in FY09, and a completed APAR and RAP was submitted to the TCEQ in October 2010. The plugging of monitor wells was accomplished in FY11. Removal of some stockpiled soil (from construction of parking areas) occurred in early FY12.

The remaining actions are annual inspections/ reporting of the condition of the parking lot (LUC cap) which prevents human exposure to an area of subsurface metal contaminated soil that exceeds protective concentration levels. Reports on the annual cap inspection will occur annually before March 31, and began in FY12.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
RRAD-07	OTC HOSPITAL	198105	USACHPPM Hazardous and Medical Waste Study No. 37-EF-5698-97, Dec '96
RRAD-08	OTC RIFLE RANGE	198105	NFA because found not eligible for IRP, as this is a FUDS site, site #K06TX013901, Red River Archives Search Report, Huntsville Corps of Engineers, Mar. 1995
RRAD-09	SURVEILLANCE AREA	199802	This site is addressed under MMRP site RRAD-009-R-01.
RRAD-10	SURVEILLANCE AREA (1953)	199802	This site is addressed under MMRP site RRAD-008-R-01.
RRAD-11	SURVEILLANCE AREA (PISTOL RANGE)	199802	This site is addressed under MMRP site RRAD-001-R-01 and RRAD-002-R-01
RRAD-14	BUILDING 311 (X-RAY FACILITY)	198701	USACHPPM Hazardous and Medical Waste Study No. 37-EF-5698-97, Dec '96
RRAD-15	RAD STGE (BLDGS B12-3,G5-6,G-14-7,E13-5)	197807	These are still active sites, and are addressed in the RCRA Permit for closure..
RRAD-16	RAD STG(F14-1,A14-5,C3-5,C6-1,C9-7,E4-1)	197807	These are still active sites, and are addressed in the RCRA Permit for closure.
RRAD-17	RAD FIRE BUILDING S-661 (OLD T-6)	197807	USACHPPM Hazardous and Medical Waste Study No. 37-EF-5698-97, Dec '96
RRAD-18	RAD FIRE BUILDING 421	197807	Duplicate RRAD-76
RRAD-19	RAD WASTE STORAGE	197807	The last site update person was 1st BRAC 1995 BEC, so site was probably a BRAC 1995 footprint site that was later transferred out of the BRAC footprint. Site location and details are unknown.
RRAD-21	FLM MATL STG (S-257,327,329,S-402)	197807	USACHPPM Hazardous and Medical Waste Study No. 37-EF-5698-97, Dec '96
RRAD-22	FLM MAT STG (S-547,S-648,T-1190)	197807	USACHPPM Hazardous and Medical Waste Study No. 37-EF-5698-97, Dec '96
RRAD-26	AERATION LAGOONS (4) IN AREA K	199404	Not eligible for IRP, this is an active industrial category wastewater treatment site
RRAD-28	WOODYARD LANDFILL	200609	Cap maintenance will be conducted as part of the installation's best management practices in accordance with the RRAD Master Plan.
RRAD-30	POPPING FURNACE BLDG #1025	200101	Consolidated administratively into adjacent contaminant commingled site RRAD-63
RRAD-38	WASTE PILES	199310	Determined as not eligible for IRP as this is an active site
RRAD-39	FINAL LAGOON, IWTP	199704	US Army Corps of Engineers, Fort Worth District, Closure Report for Industrial Wastewater Treatment Lagoons, Red River Army Depot, February 1997

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
RRAD-40	RAW PHOSPHATE DETENTION LAGOON,IWTP	199412	Determined as not eligible for IRP as this is an active site. Transferred under utility privatization to the local redevelopment authority.
RRAD-41	SOILS NEAR BLDG 430	198901	US Army Corps of Engineers, Fort Worth District, Volumes I & II-RCRA Facility Investigation, Final Report, Includes: Buildings #430, Big Creek, Sludge Drying Beds, WWT Area, POL Pump Site, OTC Area, Panther Creek, and Pesticide Pit, Red River Army Depot, April 22, 1992
RRAD-45	SOILS UNDER BLDG 341	200209	RCRA Facility Investigation Final Report, FWACOE, April 1992
RRAD-46	BIG CREEK	199206	Texas Commission on Environmental Quality agreed with our statement in a permit revision issuance dated May 18, 2004, the "sampling results at Big Creek have indicated no impact to the stream from the OTC Landfill". NFA Letter dtd May 27, 2004.
RRAD-49	TNT WASHOUT FACILITY SOILS	199307	USAEHA Geohydrologic Study No. 38-26-KV-49-93 10 Sep 1993
RRAD-50	OB/OD AREA	199303	This is an active site and is addressed in the RCRA Permit for closure.
RRAD-54	SOILS AT BLDG 420	199310	Building 420 Soils Investigation, Fort Worth COE, May 1992
RRAD-57	MAINTENANCE SALVAGE YARD	199907	Baseline Risk Assessment for Maintenance Salvage Yard, Fort Worth Corps of Engineers, August 1995
RRAD-59	D-AREA Y-SITE	198105	NFA because found not eligible for IRP, this is MMRP site RRAD-006-R-01.
RRAD-69	BLDG 319 PIPELINE	199703	UST Removals and Contaminated Soil, Laidlaw, Jan 1994
RRAD-70	BLDG 388, DISCHARGE LINE (SINK)	199909	RCRA Facility Assessment Building 388, Fort Worth Corps, Dec 1998
RRAD-74	BLDG 411, ANNEALING VATS UNDER FLOOR	199701	This is an active site not eligible for IRP. Was in original BRAC 1995 footprint, BRAC study canceled when footprint was changed and made a non-BRAC site.
RRAD-76	BLDG 421, RAD EMMITTING SOURCES PRESENT	199609	This is an active site not eligible for IRP. Was in original BRAC 1995 footprint, BRAC study canceled when footprint was changed and made a non-BRAC site.
RRAD-78	BLDG 443, RADIOLOGICAL SOURCE PRESENT	199609	This is an active site not eligible for IRP. Was in original BRAC 1995 footprint, BRAC study canceled when footprint was changed and made a non-BRAC site.
RRAD-81	AMMUNITION SURVEILLANCE TRACER TEST RNG	199705	This site is addressed under MMRP site RRAD-010-R-01.
RRAD-83	COMP BUILDING 413	199707	This is an active site not eligible for IRP. Was in original BRAC 1995 footprint, BRAC study canceled when footprint was changed and made a non-BRAC site.
RRAD77	BLDG 431, RADIOLOGICAL SOURCE PRESENT	199609	This is an active site not eligible for IRP. Was in original BRAC 1995 footprint,

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
			BRAC study canceled when footprint was changed and made a non-BRAC site.

IRP Schedule

Date of IRP Inception: 197803

Past Phase Completion Milestones

1978

CS (RRAD-15 - RAD STGE (BLDGS B12-3,G5-6,G-14-7,E13-5), RRAD-16 - RAD STG(F14-1,A14-5,C3-5,C6-1,C9-7,E4-1), RRAD-17 - RAD FIRE BUILDING S-661 (OLD T-6), RRAD-18 - RAD FIRE BUILDING 421, RRAD-19 - RAD WASTE STORAGE, RRAD-21 - FLM MATL STG (S-257,327,329,S-402), RRAD-28 - WOODYARD LANDFILL, RRAD-39 - FINAL LAGOON, IWTP)

PA (RRAD-22 - FLM MAT STG (S-547,S-648,T-1190), RRAD-59 - D-AREA Y-SITE)

RFA (RRAD-07 - OTC HOSPITAL, RRAD-08 - OTC RIFLE RANGE, RRAD-09 - SURVEILLANCE AREA, RRAD-10 - SURVEILLANCE AREA (1953), RRAD-11 - SURVEILLANCE AREA (PISTOL RANGE), RRAD-15 - RAD STGE (BLDGS B12-3,G5-6,G-14-7,E13-5), RRAD-16 - RAD STG(F14-1,A14-5,C3-5,C6-1,C9-7,E4-1), RRAD-17 - RAD FIRE BUILDING S-661 (OLD T-6), RRAD-18 - RAD FIRE BUILDING 421, RRAD-19 - RAD WASTE STORAGE, RRAD-21 - FLM MATL STG (S-257,327,329,S-402), RRAD-26 - AERATION LAGOONS (4) IN AREA K, RRAD-28 - WOODYARD LANDFILL, RRAD-30 - POPPING FURNACE BLDG #1025, RRAD-35 - SOIL UNDERLYING BLDG 345, NORTH WASHRACK, RRAD-37 - SOILS UNDERLYING BLDG 373(DYNAMOMET, RRAD-38 - WASTE PILES, RRAD-39 - FINAL LAGOON, IWTP, RRAD-40 - RAW PHOSPHATE DETENTION LAGOON,IWTP, RRAD-41 - SOILS NEAR BLDG 430, RRAD-55 - CHROMATE EQUALIZATION LAGOON, RRAD-62 - POPPING FURNACE BLDG# 722, RRAD-63 - POPPING FURNACE BLDG #1027)

SI (RRAD-22 - FLM MAT STG (S-547,S-648,T-1190))

1981

CS (RRAD-07 - OTC HOSPITAL, RRAD-08 - OTC RIFLE RANGE, RRAD-09 - SURVEILLANCE AREA, RRAD-10 - SURVEILLANCE AREA (1953), RRAD-11 - SURVEILLANCE AREA (PISTOL RANGE), RRAD-30 - POPPING FURNACE BLDG #1025, RRAD-38 - WASTE PILES, RRAD-40 - RAW PHOSPHATE DETENTION LAGOON,IWTP, RRAD-41 - SOILS NEAR BLDG 430, RRAD-55 - CHROMATE EQUALIZATION LAGOON, RRAD-62 - POPPING FURNACE BLDG# 722, RRAD-63 - POPPING FURNACE BLDG #1027)

SI (RRAD-59 - D-AREA Y-SITE)

1987

PA (RRAD-45 - SOILS UNDER BLDG 341)

ISC (RRAD-54 - SOILS AT BLDG 420)

INV (RRAD-54 - SOILS AT BLDG 420)

RFA (RRAD-14 - BUILDING 311 (X-RAY FACILITY), RRAD-46 - BIG CREEK, RRAD-49 - TNT WASHOUT FACILITY SOILS, RRAD-50 - OB/OD AREA, RRAD-56 - BUILDING 315 TRANSFER STATION)

SI (RRAD-45 - SOILS UNDER BLDG 341)

CS (RRAD-14 - BUILDING 311 (X-RAY FACILITY), RRAD-46 - BIG CREEK, RRAD-56 - BUILDING 315 TRANSFER STATION)

1988

DES (RRAD-55 - CHROMATE EQUALIZATION LAGOON)

1989

CMI(C) (RRAD-41 - SOILS NEAR BLDG 430)

RFI/CMS (RRAD-41 - SOILS NEAR BLDG 430)

RFA (RRAD-43 - SOILS NEAR TRANSFER PUMPS, BLDG 473)

DES (RRAD-41 - SOILS NEAR BLDG 430)

1990

CMI(C) (RRAD-55 - CHROMATE EQUALIZATION LAGOON)

1992

RFA (RRAD-36 - BLDG 371 (BATTERY SHOP) SOILS)

RFI/CMS (RRAD-46 - BIG CREEK)

CAP (RRAD-54 - SOILS AT BLDG 420)

1993

CS (RRAD-49 - TNT WASHOUT FACILITY SOILS, RRAD-50 - OB/OD AREA)

IRP Schedule

IMP(C)	(RRAD-54 - SOILS AT BLDG 420)
1994	
IRA	(RRAD-28 - WOODYARD LANDFILL)
RFA	(RRAD-57 - MAINTENANCE SALVAGE YARD, RRAD-60 - BLDG 433, FORMER RUBBER PRODUCTS BL)
RFI/CMS	(RRAD-38 - WASTE PILES)
CS	(RRAD-26 - AERATION LAGOONS (4) IN AREA K)
1995	
IRA	(RRAD-30 - POPPING FURNACE BLDG #1025, RRAD-40 - RAW PHOSPHATE DETENTION LAGOON,IWTP)
CS	(RRAD-60 - BLDG 433, FORMER RUBBER PRODUCTS BL)
1996	
PA	(RRAD-76 - BLDG 421, RAD EMMITTING SOURCES PRESENT, RRAD-78 - BLDG 443, RADIOLOGICAL SOURCE PRESENT, RRAD77 - BLDG 431, RADIOLOGICAL SOURCE PRESENT)
1997	
RFA	(RRAD-69 - BLDG 319 PIPELINE, RRAD-70 - BLDG 388, DISCHARGE LINE (SINK), RRAD-71 - BLDG 350, FORMER NI-CAD BATTERY SHO, RRAD-73 - BLDG 414, GEN STORAGE BLDG, DIRT FLOOR, RRAD-74 - BLDG 411, ANNEALING VATS UNDER FLOOR, RRAD-81 - AMMUNITION SURVEILLANCE TRACER TEST RNG)
PA	(RRAD-83 - COMP BUILDING 413)
IRA	(RRAD-39 - FINAL LAGOON, IWTP)
RA(C)	(RRAD-83 - COMP BUILDING 413)
RD	(RRAD-83 - COMP BUILDING 413)
1998	
CS	(RRAD-37 - SOILS UNDERLYING BLDG 373(DYNAMOMET, RRAD-70 - BLDG 388, DISCHARGE LINE (SINK), RRAD-71 - BLDG 350, FORMER NI-CAD BATTERY SHO)
1999	
RFI/CMS	(RRAD-57 - MAINTENANCE SALVAGE YARD, RRAD-70 - BLDG 388, DISCHARGE LINE (SINK), RRAD-73 - BLDG 414, GEN STORAGE BLDG, DIRT FLOOR)
CS	(RRAD-73 - BLDG 414, GEN STORAGE BLDG, DIRT FLOOR)
2001	
RFI/CMS	(RRAD-30 - POPPING FURNACE BLDG #1025)
RFA	(PBC Red River - PBC)
2002	
RI/FS	(RRAD-45 - SOILS UNDER BLDG 341)
2003	
RFI/CMS	(RRAD-28 - WOODYARD LANDFILL, RRAD-62 - POPPING FURNACE BLDG# 722)
2004	
IRA	(RRAD-71 - BLDG 350, FORMER NI-CAD BATTERY SHO)
RFI/CMS	(RRAD-63 - POPPING FURNACE BLDG #1027)
DES	(RRAD-62 - POPPING FURNACE BLDG# 722)
2005	
CM(C)	(RRAD-62 - POPPING FURNACE BLDG# 722)
2006	
LTM	(RRAD-28 - WOODYARD LANDFILL)
IRA	(RRAD-56 - BUILDING 315 TRANSFER STATION)

2007

RFI/CMS (RRAD-35 - SOIL UNDERLYING BLDG 345, NORTH WASHRACK, RRAD-36 - BLDG 371 (BATTERY SHOP) SOILS, RRAD-37 - SOILS UNDERLYING BLDG 373(DYNAMOMET, RRAD-43 - SOILS NEAR TRANSFER PUMPS, BLDG 473, RRAD-56 - BUILDING 315 TRANSFER STATION, RRAD-60 - BLDG 433, FORMER RUBBER PRODUCTS BL, RRAD-71 - BLDG 350, FORMER NI-CAD BATTERY SHO)

DES (RRAD-43 - SOILS NEAR TRANSFER PUMPS, BLDG 473, RRAD-60 - BLDG 433, FORMER RUBBER PRODUCTS BL, RRAD-63 - POPPING FURNACE BLDG #1027)

CMI(C) (PBC Red River - PBC, RRAD-35 - SOIL UNDERLYING BLDG 345, NORTH WASHRACK, RRAD-36 - BLDG 371 (BATTERY SHOP) SOILS, RRAD-37 - SOILS UNDERLYING BLDG 373(DYNAMOMET, RRAD-43 - SOILS NEAR TRANSFER PUMPS, BLDG 473, RRAD-56 - BUILDING 315 TRANSFER STATION, RRAD-63 - POPPING FURNACE BLDG #1027, RRAD-71 - BLDG 350, FORMER NI-CAD BATTERY SHO)

2008

RFA (RRAD-99 - DRMO Scrap Yard)

2011

CMI(C) (RRAD-60 - BLDG 433, FORMER RUBBER PRODUCTS BL)

RFI/CMS (RRAD-99 - DRMO Scrap Yard)

2012

CMI(C) (RRAD-99 - DRMO Scrap Yard)

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates


Site ID	Site Name	ROD/DD Title	ROD/DD Date
---------	-----------	--------------	-------------

Final RA(C) Completion Date: 201207

Schedule for Next Five-Year Review: 2018

Estimated Completion Date of IRP at Installation (including LTM phase): 204509

RED RIVER ARMY DEPOT IRP Schedule

 = phase underway

SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
PBC Red River	PBC	CMI(O)						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-35	SOIL UNDERLYING BLDG 345, NORTH WASHRACK	CMI(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-36	BLDG 371 (BATTERY SHOP) SOILS	CMI(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-37	SOILS UNDERLYING BLDG 373(DYNAMOMET	CMI(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-43	SOILS NEAR TRANSFER PUMPS, BLDG 473	CMI(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-55	CHROMATE EQUALIZATION LAGOON	LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-56	BUILDING 315 TRANSFER STATION	CMI(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-60	BLDG 433, FORMER RUBBER PRODUCTS BL	CMI(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-62	POPPING FURNACE BLDG# 722	LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-63	POPPING FURNACE BLDG #1027	LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-71	BLDG 350, FORMER NI-CAD BATTERY SHO	CMI(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-73	BLDG 414, GEN STORAGE BLDG, DIRT FLOOR	LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-99	DRMO Scrap Yard	LTM						

RED RIVER ARMY DEPOT
Army Defense Environmental Restoration Program
Military Munitions Response Program

MMRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 11/5

Installation Site Types with Future and/or Underway Phases

1	Drainage Ditch (RRAD-011-R-01)
1	Firing Range (RRAD-001-R-01)
1	Open Burning/Open Detonation (OB/OD) (RRAD-011-R-03)
2	Unexploded Munitions/Ordnance (RRAD-006-R-01, RRAD-010-R-01)
1	Washrack (RRAD-011-R-02)

Most Widespread Contaminants of Concern

Explosives, Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC), Perchlorate, White Phosphorous

Media of Concern

Building Decontamination, Groundwater, Sediment, Soil

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY
RRAD-001-R-01	VULCAN RANGE	FRA	WASTE REMOVAL - SOILS	2013
RRAD-001-R-01	VULCAN RANGE	FRA	INSTITUTIONAL CONTROLS	2013
RRAD-001-R-01	VULCAN RANGE	FRA	UXO CLEARANCE	2013
RRAD-006-R-01	D-AREA Y-SITE D060201	FRA	WASTE REMOVAL - SOILS	2013
RRAD-006-R-01	D-AREA Y-SITE D060201	FRA	UXO CLEARANCE	2013
RRAD-006-R-01	D-AREA Y-SITE D060201	FRA	INSTITUTIONAL CONTROLS	2013
RRAD-010-R-01	TRACER TEST RANGE	FRA	WASTE REMOVAL - SOILS	2013

Duration of MMRP

Date of MMRP Inception 199911

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201709/201709

Date of MMRP completion including Long Term Management (LTM): 204207

MMRP Contamination Assessment

Contamination Assessment Overview

In FY02, preliminary assessments (PAs) were conducted for MMRP sites. SIs were conducted from FY02 through FY05. In May 2005, fieldwork occurred to determine the potential presence of MEC. In November 2005, a draft SI report was submitted to the TCEQ in November 2005 and was concurred with in 2006.

In November 2010, final RI reports were submitted to the TCEQ for the Vulcan Range transferred (TD) and Grenade Range sites. The recommendation of the November 2010 RI reports indicate NFAs will be necessary for the Vulcan Range-TD and Grenade Range sites.

The RI/FS reports for three MMRP sites were sent to the TCEQ in November 2010, with recommendations that RAs were necessary. The Vulcan Range and Y Site (D area) will need remediation (soil and MEC respectively) and institutional controls, and the Tracer Test Range will need a MC contaminated soil removal.

Cleanup Exit Strategy

Data results from the RI indicate NFA will be necessary for the Vulcan Range-TD and Grenade Range sites.

MMRP Previous Studies

	Title	Author	Date
2001	US Army Active/Inactive Range Inventory, Red River Army Depot	USAEC	AUG-2001
2002	Final Closed, Transferred, and Transferring Range (CTT)/Site Inventory Report, Red River Army Depot, Texas, Camp Stanley Storage Activity, US Army Materiel Command	e2M Inc.	MAR-2002
2004	Historical Records Review For Other Than Operational Ranges	US Army Corps of Engineers -Omaha District	AUG-2004
	Draft Conceptual Site Model Military Munitions Response Program Site Inspection, Red River Army Depot, Texas	e2M Inc.	DEC-2004
2005	Final Historical Records Review for Other Than Operational Ranges	US Army Corps of Engineers	JAN-2005
2006	Final Site Inspection Report, MMRP	e2M/US Army Corps of Engineers, Omaha District	AUG-2006
2010	Final Remedial Investigation Report - Grenade Range	Parsons	NOV-2010
	Final Remedial Investigation Report - Vulcan Range TD	Parsons	NOV-2010
	Final Remedial Investigation Report and Feasibility Study - Vulcan Range	Parsons	NOV-2010
	Final Remedial Investigation Report and Feasibility Study - Tracer Test Range	Parsons	NOV-2010
	Final Remedial Investigation Report and Feasibility Study - Y-Site (RRAD-006-R-01)	Parsons	NOV-2010
2011	Proposed Plan Grenade Range, Tracer Test Range, Vulcan Range, Vulcan Range-TD, and Y Site	Parsons	APR-2011
	Final Decision Document Vulcan Range-TD MRS	Parsons, Austin Texas	JUN-2011
	Final Decision Document Grenade Range MRS	Parsons, Austin Texas	JUL-2011
	Final Decision Document Tracer Test Range MRS	Parsons, Austin Texas	JUL-2011
	Final Decision Document Vulcan Range MRS	Parsons, Austin Texas	JUL-2011
	Final Decision Document Y-Site MRS	Parsons, Austin Texas	JUL-2011
2012	Final Historical Records Review for the Unpermitted Demolition Areas and Associated Munitions Response Sites	Parsons - Austin Texas	JAN-2012
	Site Inspection at the Unpermitted Demolition Areas and Associated Munitions Response Sites	Parsons	OCT-2012

RED RIVER ARMY DEPOT
Military Munitions Response Program
Site Descriptions

Site ID: RRAD-001-R-01

Site Name: VULCAN RANGE

STATUS

Regulatory Driver: CERCLA

MRSP Score: 04

Contaminants of Concern: Metals, Munitions and explosives of concern (MEC)

Media of Concern: Soil

Phases	Start	End
PA.....	200202.....	200305
SI.....	200309.....	200608
RI/FS.....	200803.....	201102
RA(C).....	201112.....	201307
LTM.....	201307.....	204207

RIP Date: N/A

RC Date: 201307

SITE DESCRIPTION

The Vulcan Test Range is located in the southeast portion of the installation and was used from 1969 until the 1990s. The Vulcan Test Range was used for annual qualifying with small caliber handguns and surveillance testing of pistol ammunition and rebuilt weapons testing of 7.62 millimeter (mm), 20 mm, 40 mm rounds, and 155 mm systems, and possibly 105 mm cannons. This range consists of a range fan from the Vulcan Test Range. Maps identifying the firing point and range fans for these munitions were located, but target locations and impact areas were not shown in these maps and, therefore, are unknown. A portion of the Vulcan Test Range lies in an area that is classified as an operational range. The Vulcan Test Range is 480 acres. The Vulcan Test Range is classified as a closed range. Industrial and production facilities are currently located in this former range area. Pb sample measurements range from 141 to 1,930 milligrams per kilogram (mg/kg), and Toxic Characteristic Leaching Procedure (TCLP) Pb sample measurements range from 5.7 to 21.8 mg/kg. Sediment sampling detected Pb concentrations ranging from 251 to 1,010 mg/kg.

In July 2005, a change to the footprint and size of the inactive Vulcan Range and the adjacent active 25 mm weapons test range was requested and was approved by all parties by November 2005.

In 2006, the SI was finalized.

In, November 2010, the RI/FS was. The recommendations for RAs and institutional controls are detailed in the FS. The PP was made available for public comment beginning Feb. 6, 2011, but no public comments were received. The TCEQ approved the RI/FS Feb. 24, 2011.

A contract for RAs was awarded September 21, 2011. A DD was signed on Jan. 17, 2012.

CLEANUP/EXIT STRATEGY

The RI/FS Report was completed in November 2010. Recommended actions by the FS include a Pb contaminated soil RA with screening for UXO and munitions debris, then warning signs and education and institutional controls, and long term construction support.

The PP dated January 2011 was available through a Public Notice for public viewing and comment in February and March 2011, and no public comments were received.

The TCEQ approved the RI/FS report on Feb. 24, 2011.

The RA (contaminated soil excavation with MEC screening and warning signs) is under contract and has been funded. LUCs such as construction support and five-year reviews will be established as part of LTM phase after the remedial actions are completed.

Site ID: RRAD-001-R-01
Site Name: VULCAN RANGE

Site ID: RRAD-006-R-01
Site Name: D-AREA Y-SITE D060201

STATUS

Regulatory Driver: CERCLA

MRSP Score: 04

Contaminants of Concern: Metals, Munitions and explosives of concern (MEC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA.....	200202.....	200305
SI.....	200309.....	200608
RI/FS.....	200803.....	201102
RA(C).....	201112.....	201307
LTM.....	201307.....	204207

RIP Date: N/A

RC Date: 201307

SITE DESCRIPTION

This site is a magazine storage area. An explosion occurred here in 1954, apparently as a result of a lightning strike. The Y site area was used for storage of cluster bombs at the time of the explosion. The final SI report states the site is 411.8 acres. This is based upon a drawing showing maximum distribution of debris found after the bomb site explosion. The site is part of the RRM, which is a tenant activity that has been identified for mission transfer from RRAD under BRAC 2005, and the property will be retained by RRAD after the BRAC 2005 action is complete.

In 2006, the SI was finalized.

The RI/FS report was completed in November 2010. An RA was contracted and funded in FY11/FY12. The FS recommendation (alternative No.4a) is for LUCs (signage and public education), partial MEC removal in Explosion Site (surface MEC removal for 73 acres and removal to depth of detection for 10 acres), construction support for 73 acres of explosion Site and Buffer, with on call construction support in 10 acres of the explosion site and five-year reviews.

The RI/FS report was approved by the TCEQ Feb. 24, 2011. No public comments were received on the January 2011 PP through the public comment period.

+

CLEANUP/EXIT STRATEGY

The PP, dated January 2011, was available through a public notice for public viewing and comment in February and March 2011, and no public comments were received.

The TCEQ approved the RI/FS report on Feb. 24, 2011. The recommended alternative included a RA to address munitions debris/possible unexploded cluster bombs, and institutional controls to include warning signs, education, and long term construction support.

The RA (searching for and removing ordnance and installing warning signs) was funded and contract fieldwork was completed in 2013. LUCs such as construction support and five-year reviews will be established as part of LTM phase.

Site ID: RRAD-010-R-01

Site Name: TRACER TEST RANGE

STATUS

Regulatory Driver: CERCLA

MRSP Score: 05

Contaminants of Concern: Metals, Munitions and explosives of concern (MEC)

Media of Concern: Soil

Phases	Start	End
PA.....	200202.....	200305
SI.....	200309.....	200608
RI/FS.....	200803.....	201112
RA(C).....	201112.....	201309

RIP Date: N/A

RC Date: 201407

SITE DESCRIPTION

The (Ammunition Surveillance) Tracer Test Range, formerly known as RRAD-81, is located one-quarter mile northeast of the rifle range. Based upon the aerial footprint of the range, it appears to be approximately 56.84 acres. The 2001 Active/Inactive (A/I) Range Inventory report for RRAD states that the range was used from 1956 to 1973; however, there is a memorandum with an estimated cost for a "Trace Test Range" with drawings from July 1958. The July 29, 1958 RRAD memorandum states "a suitable location for the establishment of a trace test range is available at Red River Arsenal and is located south of LSAAP." It is uncertain if the range was constructed at that time. In November 1963, drawings were made for the barricade backstop of the Tracer Test Range. It is unclear if the site plan represents a new structure or possible modifications to an earlier facility. The Tracer Test Range safety fan is depicted on the 1972 Installation Woodland Management Plan. Aerial photographs from 1955 and 1960 show a road leading to the site location; however, the area appears to be wooded. An aerial photograph from 1968 shows the site location had been cleared of vegetation, suggesting that the site was in use. The 1978 installation assessment refers to the site as "Tracer Bullet Test Range 1940s/1950." The 2001 A/I Range Inventory Report for RRAD classified this range as inactive and referred to it as Range No. 2172-Tracer Test Range.

In 1996, RRAD personnel collected soil and sediment samples in the Tracer Test Area from the target tunnel and adjacent stream bank and bed. The RRAD laboratory analyzed all samples for total Pb, cadmium, and chromium. In addition, the tunnel soil samples were analyzed for total barium (87.9 mg/kg), potassium (160.8 mg/kg), magnesium (204.0 mg/kg), sodium (35.1 mg/kg), strontium (79.6 mg/kg), zinc (57.4 mg/kg), and TCLP Pb (17.8 mg/kg). Soil sample measurements of Pb ranged from 3.2 to 1600 mg/kg. In August 2001, a soil sample was collected from the Tracer Test Range by RRAD personnel and analyzed at the RRAD laboratory for explosives. Explosives were not detected.

In May 2005, e2M Inc. personnel collected samples. Upon analysis a portion had copper, Pb, and antimony above Texas Risk Reduction Program (TRRP) Tier 1 PCL's and RRAD installation-specific background levels.

In 2006, the SI was finalized.

In 2009, fieldwork for the RI/FS was completed.

The Final Remedial Investigation Report and Feasibility Study (November 2010) and Proposed Plan (January 2011) recommends excavation (dig and haul) of a .069 acre [~1000 cubic yards (cy)] area in and around the target tunnel, to remove to off-post Pb and copper contaminated soil after sifting bullet debris from that soil, then restore site with clean fill.

The area of the range needing remediation, around the former shot trap tunnel, is in a remote wooded area with access available through unimproved fire trails.

The TCEQ approved the RI/FS Feb. 24, 2011. There were no public comments received on the January 2011 PP. The DD was signed Aug. 21, 2011. A contract for the RA(C) has been awarded, and funding was received in FY12 to accomplish the remediation.

Site ID: RRAD-010-R-01
Site Name: TRACER TEST RANGE

CLEANUP/EXIT STRATEGY

The PP dated January 2011 was available through a Public Notice for public viewing and comment in February and March 2011, but no public comments were received.

The TCEQ approved the RI/FS report on Feb. 24, 2011. Approved actions included a soil removal to include excavation, and off-site transportation and disposal.

Based upon RI data, the excavation action recommended by the FS was planned to be limited to excavating and removing the target tunnel and contents, and nearby Pb and copper contaminated soil.

Under contract the soil was excavated and stabilized in 2012, and the stockpiled soil is covered at the site and awaiting dry weather for calendar year (CY) 2013 hauling to a landfill for disposal. After landfilling, final site grading and removal of storm water controls will be completed by the contractor and a report will be prepared.

Site ID: RRAD-011-R-01
Site Name: DEMOLITION AREA CREEKS

STATUS

Regulatory Driver: CERCLA

MRSP Score: Evaluation pending

Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC), Perchlorate

Media of Concern: Sediment, Surface Water

Phases	Start	End
PA.....	199911.....	200001
RI/FS.....	201301.....	201501
RD.....	201502.....	201503
RA(C).....	201503.....	201709

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

Intermittent drainage creeks around the OB/OD area have been the subject of storm water sampling since the mid-1990s, and perchlorate was commonly detected during analysis. Shrapnel and other metallic debris are commonly observed in creeks. The OB/OD areas ceased permitted operations in March 2011. The OB/OD is probably the source of creek contamination as a result of decades of demolition of obsolete, off-specification, or unneeded ammunition and ammunition components. A contracted SI report was completed dated October 2012. At this site the SI Report states that there was detection of contaminants of potential concern (COPC) in surface water for cadmium, copper, lead, and perchlorate, and in sediment the COPCs detected and with an unacceptable risk to ecological receptors were barium, cadmium, copper, lead, and mercury. Per the SI Report areas of the intermittent drainage creeks were of such high density of MEC that it is classified as saturated. A contract was awarded in FY11 with options for performing a RFI and CMS, which are contract options that have not yet been completed. The RFI is under contract and funded (fieldwork will begin in FY13). The SI Report results indicate that it will be necessary to do a design engineering study (DES) and a CMI(C).

CLEANUP/EXIT STRATEGY

An RFI will be underway beginning in FY13. A CMS is planned as a contract option in FY14. A DES is planned in FY15, and MEC removal and contaminated sediment removal actions are planned beginning in FY15.

Site ID: RRAD-011-R-02

Site Name: DEMO. AREA WASHRACK/STORAGE/TRAILS

STATUS

Regulatory Driver: CERCLA

MRSP Score: Evaluation pending

Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC), Perchlorate, Petroleum, Oil and Lubricants (POL)

Media of Concern: Building Decontamination, Soil

Phases	Start	End
PA.....	200603.....	200604
RI/FS.....	201110.....	201501

RIP Date: N/A

RC Date: 201501

SITE DESCRIPTION

This site consists of an inactive washrack, a bulldozer parking area, and dirt trails for bulldozers and other vehicles leading from the permitted OD and two OB areas (which ceased operating in March 2011) to the washrack and adjacent parking area. A washrack (structure No. 1056) is approximately 1000 feet from the permitted areas, and was used to clean bulldozers and other mobile equipment utilized for OB/OD operations. Potentially contaminated vehicles were typically driven on dirt trails to the washrack and adjacent parking areas. The OB/OD areas were used for several decades of demolition of obsolete, off-specification, or unneeded ammunition and ammunition components.

A SI report dated October 2012 stated that an unacceptable risk to ecological receptors is possible due to exposure to copper, lead, and mercury in surface soil, and a human health risk due to exposure to nitroglycerine in surface soil.

A RF) has been contractually funded and will begin fieldwork in FY13. Operations potentially affected by OB/OD operations have to be fully environmentally investigated as the OB/OD mission requirement has ended, and that further investigation during FY13-FY14 during the RFI phase will refine the extent of the RAs necessary. The OB/OD mission, which was the probable contamination source, ceased operations due to a BRAC 2005 realignment. The RRAD-011-R-02 site may have been considered in the past part of the never investigated former RRAD-50 active site (OB/OD Area). This estimate is separate from an OB/OD Areas (permitted) site CC-002-RR, and also separate from Demolition Area Creeks site RRAD-011-R-01 and Unpermitted Demolition Areas site RRAD-011-R-03, all of which are separate adjacent sites.

The SI report identified contamination of risk to ecological receptors and human health so a RFI has been funded. The SI sampling was not of sufficient extent to exactly determine the areas of the site that will require RA. The completion of the RFI and CMS will identify any necessary RAs.

CLEANUP/EXIT STRATEGY

An RFI will be beginning in FY13. The results of the RFI will determine if further future actions are necessary.

Site ID: RRAD-011-R-03

Site Name: UNPERMITTED DEMOLITION AREAS

STATUS

Regulatory Driver: CERCLA

MRSP Score: Evaluation pending

Contaminants of Concern: Explosives, Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC), Perchlorate

Media of Concern: Groundwater, Soil

Phases	Start	End
PA.....	200304.....	200305
RI/FS.....	201009.....	201501

RIP Date: N/A

RC Date: 201501

SITE DESCRIPTION

This is an inactive unpermitted portion surrounding the formally permitted OB/OD areas, and includes possible ammunition trench or pit burning areas, a white phosphorus burning area, debris storage areas, and areas affected by permitted OB/OD fragmentation and kick-out. The areas are a mixture of pine forested and grassy/brushy fields. The OB/OD demilitarization mission was identified as excess to Army requirements and the permitted portion ceased operations in March 2011 due to BRAC 2005.

The unpermitted OB/OD area will have to be fully environmentally investigated. The actual permitted acreage of the OB/OD area is 30.54 acres, but the area observed effected within explosive fragmentation distance along with adjacent areas suspected of having similar demilitarization operations has been estimated at 590.7 acres per the Final Site Inspection Report, Unpermitted Demolition Areas and Associated Munitions Response Sites, dated Oct. 24, 2012. The site does not include storm water drainage channels and equipment trails associated with a washrack, both of which have been split into separate estimates.

From sampling conducted during the SI, there was determined to be an unacceptable risk to human health from 2,4-dinitrotoluene and lead in surface soil, and to ecological receptors in surface soil from 2,4-dinitrotoluene, chromium, copper, lead and mercury.

It has been decided that this contamination will need to be fully investigated. The SI report dated October 2012 has been submitted to the TCEQ for review.

An RFI phase that includes a full investigation for both MEC and MC contamination was funded in FY13 as task 9 under contract W912DY-09-D-0062-0007 at a cost of \$269,679.00, with a contract expiration date of Nov. 30 2014. The RFI/CMS contract tasks that are applicable numbers nine and 12. Note that the contract denotes phases RI/FS instead of RFI/CMS. AEDB-R is possibly incorrect as CERCLA terminology RI/FS might be more proper than RCRA terminology RFI/CMS.

The CMS has not yet been funded.

Before the SI, this site was estimated as 251.46-acres. The HRR estimated the area as 609 acres. The SI report estimates the size from approximately 590.7-acres to 600.8-acres.

CLEANUP/EXIT STRATEGY

In FY11 a contract was awarded for an HRR archival search report as the start of the RFI phase.

A "Final SI Report, Unpermitted Demolition Areas and Associated Munitions Response Sites" was completed dated Oct. 24 2012, which determined for this MRS based upon limited sampling that there were concentrations of dinitrotoluene and metals of unacceptable risk, and further (RFI) investigation was warranted.

Fieldwork for the RFI will be conducted in FY13.

If RFI results do warrant further action funding for the CMS is planned as a contract option in FY14.

Site ID: RRAD-011-R-03
Site Name: UNPERMITTED DEMOLITION AREAS

If necessary , other possibilities are a DES in FY15, and MEC and soil removal actions performed beginning in FY15, followed by LTM for UXO Construction Support.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
RRAD-002-R-01	VULCAN RANGE - TD	201109	The Texas Commission on Environmental Quality concurred with the November 2010 Vulcan Range-TD Remedial Investigation Report recommendation of No Further Action per a letter dated February 24, 2011.
RRAD-003-R-01	POPPING FURNACE, BLDG 722	200305	Covered under IRP site RRAD-62
RRAD-004-R-01	POPPING FURNACE, BLDG 1027	200305	Covered under IRP site RRAD-63
RRAD-005-R-01	POPPING FURNACE, BLDG 1025	200305	Covered under IRP site RRAD-63
RRAD-007-R-01	GRENADÉ RANGE	201109	The Texas Commission on Environmental Quality concurred with the November 2010 Grenade Range Remedial Investigation Report recommendation of No Further Action per a letter dated February 24, 2011.

MMRP Schedule

Date of MMRP Inception 199911

Past Phase Completion Milestones

2000

PA (RRAD-011-R-01 - DEMOLITION AREA CREEKS)

2003

PA (RRAD-001-R-01 - VULCAN RANGE, RRAD-002-R-01 - VULCAN RANGE - TD, RRAD-003-R-01 - POPPING FURNACE, BLDG 722, RRAD-004-R-01 - POPPING FURNACE, BLDG 1027, RRAD-005-R-01 - POPPING FURNACE, BLDG 1025, RRAD-006-R-01 - D-AREA Y-SITE D060201, RRAD-007-R-01 - GRENADE RANGE, RRAD-010-R-01 - TRACER TEST RANGE, RRAD-011-R-03 - UNPERMITTED DEMOLITION AREAS)

2006

SI (RRAD-001-R-01 - VULCAN RANGE, RRAD-002-R-01 - VULCAN RANGE - TD, RRAD-006-R-01 - D-AREA Y-SITE D060201, RRAD-007-R-01 - GRENADE RANGE, RRAD-010-R-01 - TRACER TEST RANGE)
PA (RRAD-011-R-02 - DEMO. AREA WASHRACK/STORAGE/TRAILS)

2011

RI/FS (RRAD-001-R-01 - VULCAN RANGE, RRAD-002-R-01 - VULCAN RANGE - TD, RRAD-006-R-01 - D-AREA Y-SITE D060201, RRAD-007-R-01 - GRENADE RANGE)

2012

RI/FS (RRAD-010-R-01 - TRACER TEST RANGE)

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

Site ID	Site Name	ROD/DD Title	ROD/DD Date
---------	-----------	--------------	-------------

Final RA(C) Completion Date: 201709

Schedule for Next Five-Year Review: 2018

Estimated Completion Date of MMRP at Installation (including LTM phase): 204207

RED RIVER ARMY DEPOT MMRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-001-R-01	VULCAN RANGE	LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-006-R-01	D-AREA Y-SITE D060201	LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-011-R-01	DEMOLITION AREA CREEKS	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-011-R-02	DEMO. AREA WASHRACK/STORAGE/TRAILS	RI/FS						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
RRAD-011-R-03	UNPERMITTED DEMOLITION AREAS	RI/FS						

RED RIVER ARMY DEPOT
Army Defense Environmental Restoration Program
Compliance Restoration

CR Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 2/1

Installation Site Types with Future and/or Underway Phases

1 Above Ground Storage Tank
(CC-006-RR)

Most Widespread Contaminants of Concern

Petroleum, Oil and Lubricants (POL)

Media of Concern

Groundwater, Soil

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY
N/A				

Duration of CR

Date of CR Inception: 200304

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201401/201401

Date of CR completion including Long Term Management (LTM): 201401

CR Contamination Assessment

Contamination Assessment Overview

Leaking underground fuel lines from ASTs to the pump island were discovered in 2010. The fuel lines were purged, disconnected, replaced, and soil in immediate vicinity of trenching was replaced, but during soil investigation (Weston report, March 2011) soil samples above Texas Petroleum Storage Tank (PST) action levels for benzene were noted.

During preparation of an Assessment Report (Baer Engineering, November 2011) there were 15 monitoring wells installed. The groundwater constituents exceeding Texas Target Cleanup Goals were: benzene, ethylbenzene, and naphthalene. During this assessment the soil constituents exceeding Texas Cleanup Goals were: benzene. The sampling for the Assessment Report was not able to fully determine rate and extent of the contamination. Current plans are for further assessment and quarterly groundwater sampling.

Cleanup Exit Strategy

Complete an assessment of soil and groundwater contaminant plumes and evaluate site conditions to determine the need for corrective action.

CR Previous Studies

	Title	Author	Date
2010			
	Red River Army Depot, Texas, Facility 393 Site Characterization	U.S. Army Corps of Engineers, Omaha District	SEP-2010
2011			
	Release Determination Report	Weston Solutions Inc, Omaha NE	MAR-2011
	Petroleum Storage Tank Assessment Report	Baer Engineering	NOV-2011
2012			
	Assessment Report Form Addendum, Bldg 393	Baer Engineering	MAY-2012
	Response to Comments and Site Closure Request Form Submittal, Building 393	Baer Engineering	SEP-2012

RED RIVER ARMY DEPOT
Compliance Restoration
Site Descriptions

Site ID: CC-006-RR
Site Name: Fuel Station, Building 393

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Soil

Phases	Start	End
ISC.....	201006.....	201103
CAP.....	201108.....	201401

RIP Date: N/A

RC Date: 201401

SITE DESCRIPTION

The Fuel Station is the current dispensing station for fueling vehicles and a supply site for fuel piped to the nearby Dynamometer Shop, Bldg 373 (AEDB-R site RRAD-37). The central office building associated with the Fuel Station is Bldg 393. The site has nine ASTs (7 currently in use) and a pump island supplied by underground lines from two on-site AST farms. The fenced acreage of the Fuel Station is about 0.87 acres. Soil and groundwater boring samples associated with repair of a leaking underground line discovered in 2009 resulted in a July 11, 2011 letter from the TCEQ requiring additional investigation with assignment as Leaking Petroleum Storage Site (LPST) identification number 118592. Additional samples during a completed 2011 Corrective Action Plan assessment exceeded state soil (benzene and toluene) and groundwater (benzene) action levels. This was reported in a November 2011 assessment report which had TCEQ concurrence in December 2012. Responding to a Nov. 15, 2012 TCEQ request, during the week of Jan. 7, 2013, the 19 monitor wells at the site were resampled and additional soil sampling occurred.

During January and February 2013 there were explosive vapor levels detected in the building 393 men's restroom floor drain, which has been closed with a non-vented cap as a result. The vapors which set off the lower-explosive-limit portable meters may have been from methane from sewage decomposition in the drain line.

The results of the January 2013 groundwater and soil sampling are pending.

Documentation is not yet available to determine an estimate for a CTC for any further environmental actions. The fact that there are ASTs, concrete berms, buildings and pavement could make remediation projects very expensive.

CLEANUP/EXIT STRATEGY

The cleanup/exit strategy is to complete an assessment of soil and groundwater contaminant plumes and evaluate site conditions to determine the need for corrective action.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
CC-002-RR	Open Burning/Open Detonation Areas	201103	

CR Schedule

Date of CR Inception: 200304

Past Phase Completion Milestones

2003

RFA (CC-002-RR - Open Burning/Open Detonation Areas)

2011

ISC (CC-006-RR - Fuel Station, Building 393)

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates


To Be Determined

Final RA(C) Completion Date:

Schedule for Next Five-Year Review: 2018

Estimated Completion Date of CR at Installation (including LTM phase): 201401

RED RIVER ARMY DEPOT CR Schedule

 = phase underway

SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
CC-006-RR	Fuel Station, Building 393	CAP						

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): 201211

Restoration Advisory Board (RAB): RAB established 199602

RAB Adjournment Date: N/A

RAB Adjournment Reason: None

Additional Community Involvement Information

A Community Involvement Plan (CIP) for Red River Army Depot dated November 2012 was prepared by PB&A Inc. Part of the CIP preparation involved community interviews conducted September 24-27, 2012.

The RRAD established an active RAB on Feb. 2, 1996 for BRAC 1995. The RAB has been inactive throughout the BRAC 2005 process due to a lack of public interest.

The Proposed Plan for Grenade Range, Tracer Test Range, Vulcan Range, Vulcan Range-TD and Y Site, dated January 2011, was available for public comment for 30 days (from Feb. 6, 2011 through March 9th, 2011). The Plan was referenced by the newspaper legal notice as being available for review at the Texarkana College Library RRAD information depository and was referenced as available for viewing at a web site. The RRAD published legal notice asked for public comments and input, and there were no public comments.

On June 8, 2011, RRAD published a legal notice in the Texarkana Gazette newspaper concerning the renewal application and major amendments to our hazardous/solid waste permit and Compliance Plan. The only response was a concurrence received from the ARK TEX Council of governments on July 5, 2011. There was no public response or interest received. The compliance major amendments concerned addition of IRP sites (RRAD-35, -36, -37, -43, -56, -60, and -71) groundwater monitoring formerly to the Compliance Plan.

On Oct. 12, 2011, a legal notice published in the Texarkana Gazette newspaper for an Air Permit Renewal for Boiler Plant Permit No. 8315A received a favorable response from ARK-TEX Council of governments (Nov. 2, 2011). There was no public response (no interest expressed).

As part of waste permit/compliance plan 10 year renewal with major amendment, there was on Oct. 18, 2012 a legal notice in the Texarkana Gazette newspaper and broadcast on radio station KKYR. No comments or queries were received by RRAD during the following 30 day comment period, and subsequently TCEQ issued the renewed permit on Dec. 14, 2012. This was the most recent equivalent to soliciting for public involvement.

New interest is gauged through newspaper legal notices and public meetings on permit modifications and there has not been any public response, thus RRAD has not re-established a RAB for BRAC 2005 or the active side. There has not been any public response or attendance to any legal notices in the last several years.

Other past newspaper advertisements soliciting public interest for environmental permit changes ran on Dec. 19, 2005, Jan. 2, 2007, Oct. 5, 2007, Dec. 21, 2007, March 26, 2009, Dec. 9, 2010, Feb. 6, 2011, June 8, 2011, and Oct. 18, 2012. Public meetings for environmental permit changes were held Jan. 25, 2006 and Jan. 29, 2007. The only non-Army response to newspaper public legal notices or attendance at meetings was by a representative for the ARK-LA-TEX Council of governments, who had no negative comments.

The RRAD has a Public Affairs Program Plan, which was last updated in July 2003.

Administrative Record is located at

Red River Army Depot
Environmental Division
ATTN: TARR-OL
Texarkana, Texas 75507-5000
Phone (903)-334-4984

Information Repository is located at

Community Involvement

Texarkana College
Palmer Memorial Library
2500 N. Robison Road (library parking is off of Tucker St.)
Texarkana, Texas 75599
Phone (903)-334-4984

Current Technical Assistance for Public Participation (TAPP):N/A

TAPP Title: N/A

Potential TAPP: N/A

